Ranger Rick's nature magazine

October, 1967

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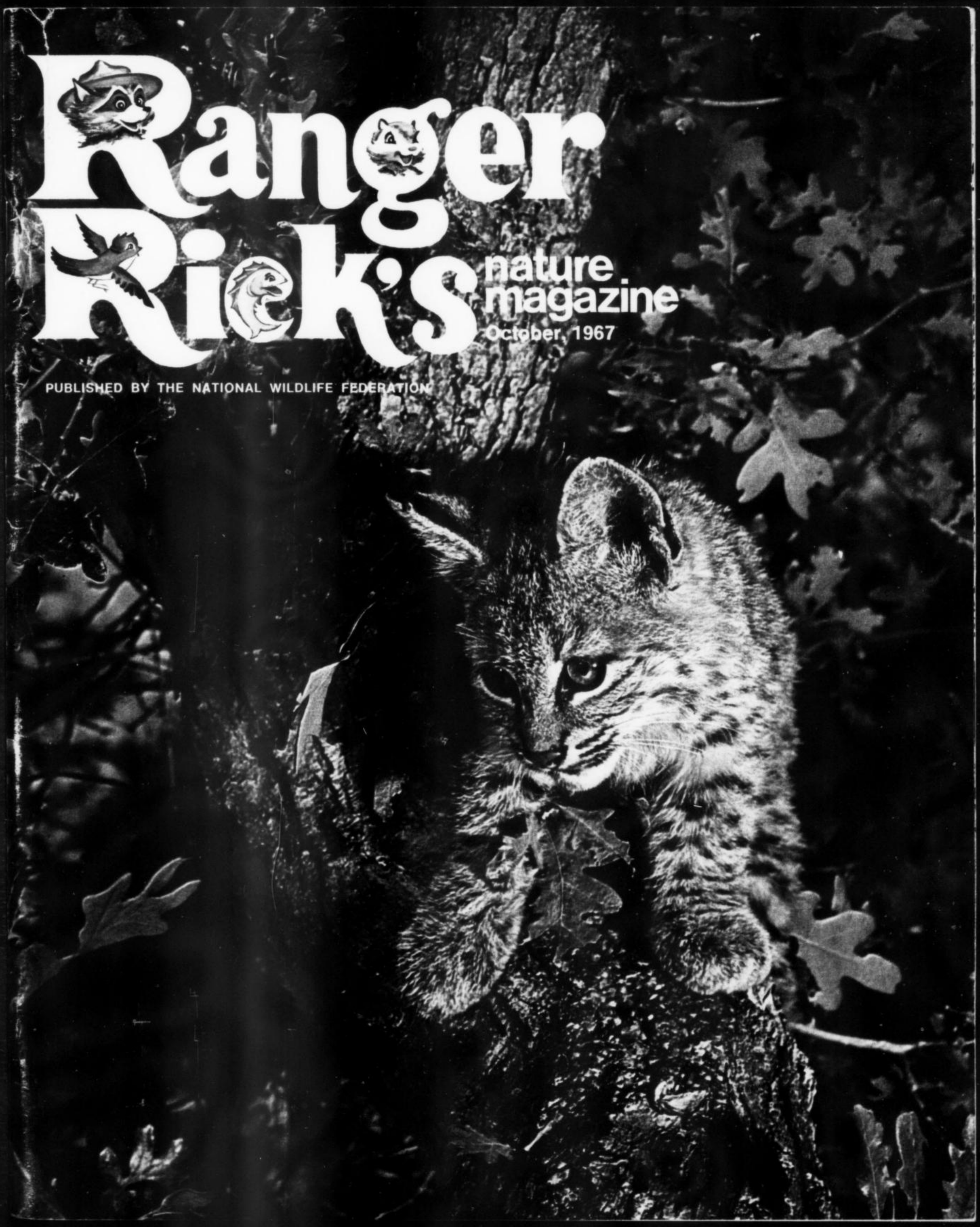

Falling Leaves

As I was going out to play,
I saw the first leaf fall today.
I watched it fall without a sound
Until it rested on the ground.

Another leaf soon left the tree.
It fell and came to rest on me . . .
An orange leaf with bits of brown.
I smoothed it out and pressed it down.

Then more leaves, orange, brown and red,
Came flying down around my head.
They made a soft pile on the street,
A leafy carpet for my feet.

Carefully I looked around
At all the bright leaves on the ground.
I picked the best leaf of them all
To keep a little bit of fall.

—M. Caporale Shecktor
and Harriet May Savitz

Photo by Grant Heilman

This book belongs to

.....

OBJECTIVES: To give boys and girls a year-round program of activities, adventure and knowledge which will help them appreciate and enjoy nature. To help them know and respect all things that grow and creatures that move, that all may desire to conserve and wisely use the vital natural resources of the world.

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Front cover photo of Bobcat Cub by Willis Peterson

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Brush P

h Pile Hide-out

by Anne Johnson

Long ago our country was covered with forests. When the winter snows began to fall, Ranger Rick's friends found shelter in the forests. They were full of fallen trees. Their tangled branches provided wonderful hiding places for little animals.

Today bulldozers are busy leveling the old forest lands. Houses stand in rows where the wind used to sing through the leaves and branches. Rick's friends will need shelter and places to hide this winter. How about having your Nature Club build a brush pile hide-out this fall?

On your next hike find a spot where the woods are being cleared and ask the owner if your group can build a hide-out. Everybody can help . . . even your brothers and sisters. Nothing has to be sawed, measured or even hammered! Gather enough branches to make a pile as high as a first-grader standing on his tiptoes and as wide as two first-graders stretched out flat. That is how you make a hide-out.

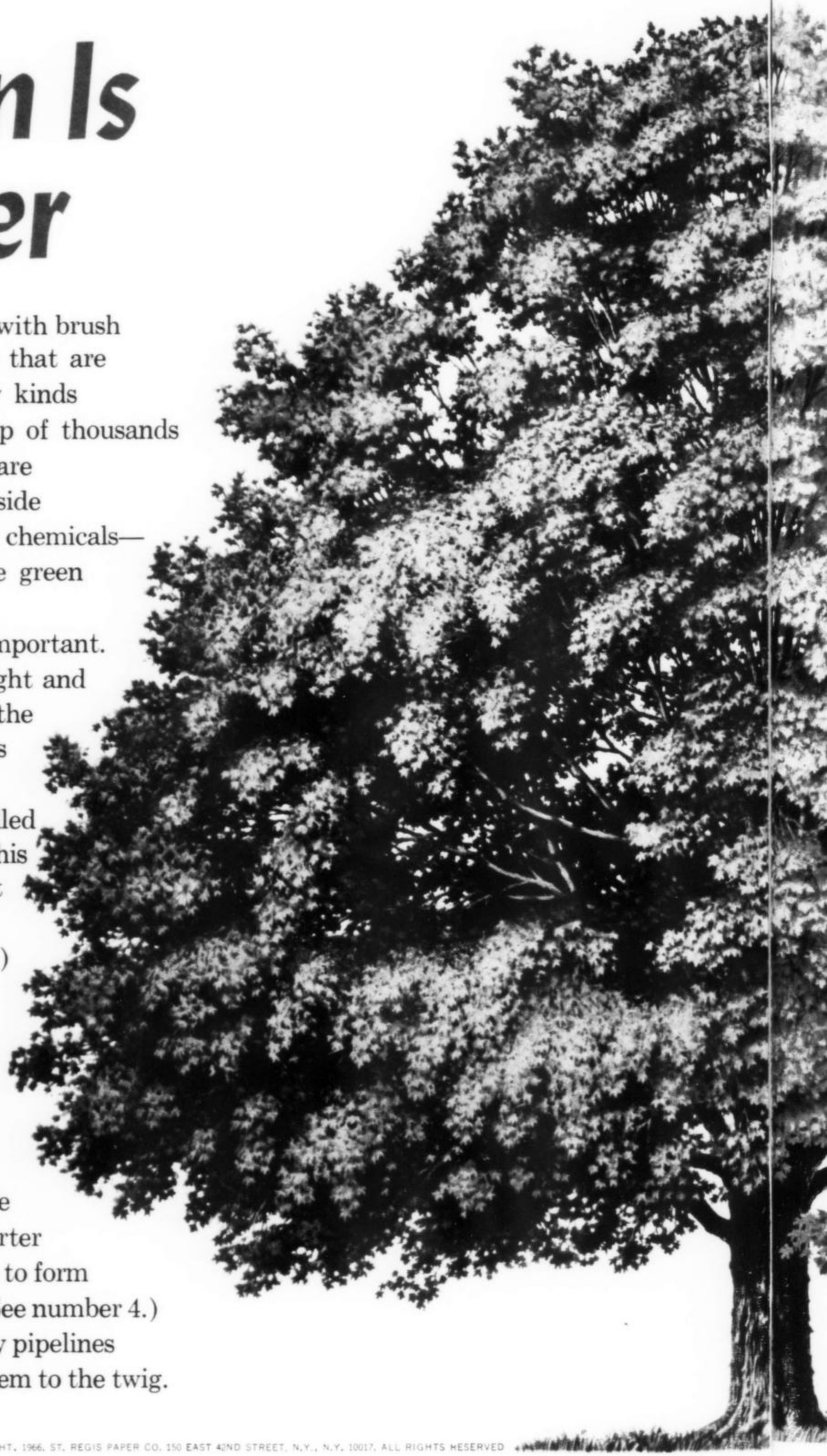
After your hide-out is finished, check back when the first snow falls. Can you tell by the tracks which of Rick's friends have been visiting? Was it Chet Chipmunk or Oscar Rabbit? *The End*

Photos by Duncan McDougall

Autumn Is A Painter

by Anthony J. Shanley

Autumn does its painting, not with brush and paintbox, but with colors that are already in the leaves of many kinds of trees. Each leaf is made up of thousands of cells that are like tiny square balloons filled with water. Inside each cell are blobs of colored chemicals—green, yellow and brown. The green chemical is called *chlorophyll* (KLOR-oh-fill) and is very important. All summer long it uses sunlight and water to make sugar to feed the tree. (See number 1.) It hides the yellow and brown of the other chemicals which are called *carotenes* (KAR-oh-teens). This chemical is the same one that makes carrots, corn and egg yolks yellow. (See number 2.) In parts of the world where winters are very cold, the tree's water supply is frozen in the soil. Trees must seal themselves up in order to live through the freezing weather. This begins toward the end of summer as days grow shorter and cooler. A corky layer starts to form where the leaf joins the twig. (See number 4.) Little by little it cuts off the tiny pipelines that run through the leaf and stem to the twig.



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All summer long these pipelines have carried water and other materials to and from the leaf. Then less and less water gets in or out of the leaf. The green chlorophyll breaks down and begins to disappear. Then you can see the yellow and brown carotenes that have really been there all the time. The sugar made by the chlorophyll that is left piles up in the leaf as the pipelines begin to close. This along with the other chemicals in the leaf make a new substance. It is the same substance that colors apples and grapes. It can turn leaves all shades from bright scarlet to soft purplish red. Sunny days and cool nights are the best kind of weather to build up the red tints. The sun by day makes the remaining chlorophyll build up sugar. The cool nights close the pipelines to trap the sugar in the leaves so more of the new red-making substance can be formed. (See number 3.) "Jack Frost" is given credit for painting the leaves, but he can really spoil their beauty. An early frost kills the leaves before their pipelines begin to be clogged. Then they turn brown and stay on the trees long into winter. *The End*

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THE RED FOX

Story and photos by
Leonard Lee Rue, III

The fox family lives in a den about three or four feet under the earth. Near their den, father fox stands watch against dangers to his family.

From a hole in the ground, a burrow leads down to the den. Foxes seldom dig their own burrow. They usually just enlarge one that has already been made by a woodchuck. The den has three or four openings so the foxes can escape danger.

Safe and snug inside the den, the fox pups are born in the spring. There are usually six to eight pups in a litter. They are covered with fuzzy fur. Although their eyes are sealed at birth, their senses of smell and hearing are very good from the moment the pup is born.

When their eyes open, in about eight or nine days, they are blue. They will turn bright yellow when the pups grow up.

After about four weeks, they begin to crawl out of the den. The mother fox calls them out with a soft, whining sound. Blinking their eyes, the pups enter the big, bright, outside world. They are very careful at first and even the fluttering of a leaf will send them scampering back into the safety of the den.

At this age, their coats are woolly because they don't have any guard hair yet. Their tail tips are white and they look like they have black boots on their feet.

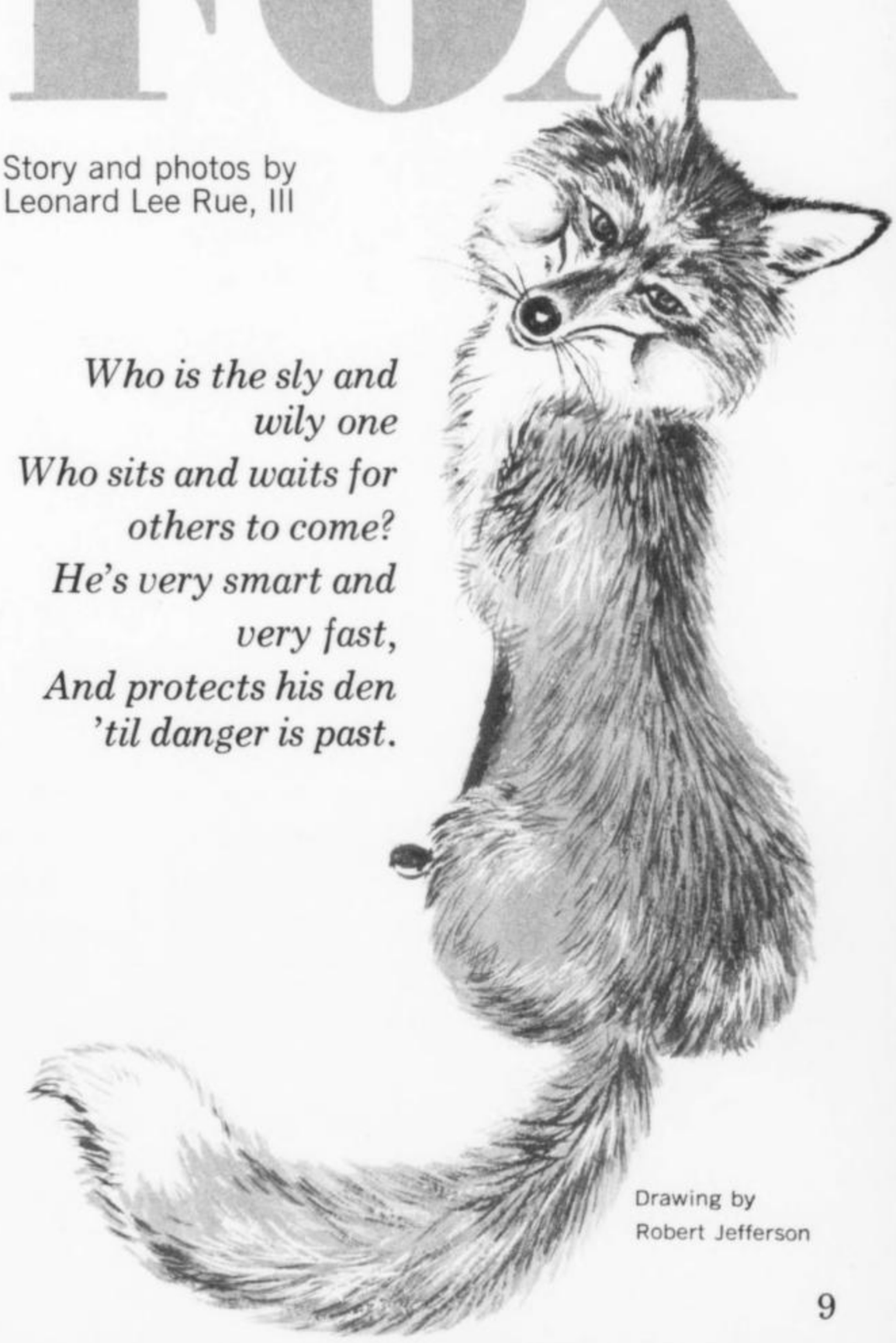
Both mother and father fox take care of the pups. Only the mother, or *vixen*, feeds them at first because they are on a milk diet. The father, or *dog* fox, brings food to the mother.

Newborn pups do not have good control of their legs. They move as if they were

Please turn the page

The fox's den is usually in a large open field or on a ridge because it likes to be able to see a long way.

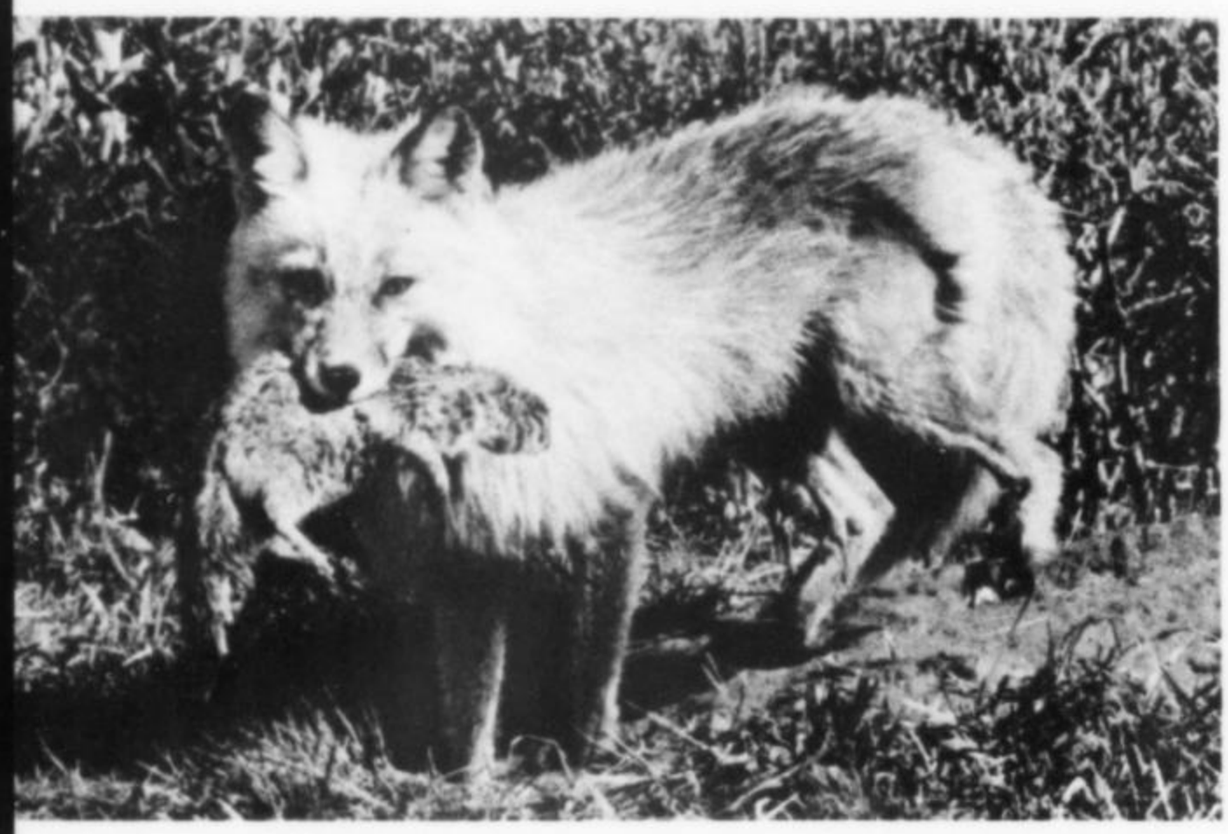
Who is the sly and
wily one
Who sits and waits for
others to come?
He's very smart and
very fast,
And protects his den
'til danger is past.



Drawing by
Robert Jefferson

puppets on a string. As they grow, they get stronger. Their eyes begin to focus on distant objects.

When the pups are about five weeks old, they begin to stay outside most of the time while their parents are curled up sleeping somewhere in the area but not in the den. The pups play for hours and are



The red fox kills small game, like ground squirrels, and brings them to the den to feed his family.

much like small puppies. They tumble over each other in mock fights and chase as if playing tag. They stalk each other as if they were hunting and then pounce on one another's tail. These same skills will be used later to stalk their prey when they need food.

As the pups are weaned they begin to eat solid food. The parents bring game to them such as mice, rats, birds and chipmunks and tear it apart for the pups.

Later the pups will do this for themselves with their needle-sharp teeth. Every piece of meat starts a fight among the pups. Growling and barking, they tug at the meat until it is torn into shreds. Not every part of the prey is eaten so the area around the den becomes littered with bits of fur and feathers.

Then the parents catch live prey and teach the pups to kill it. This may seem cruel to us, but animals must be taught to kill to get food. Without training, they would not be able to care for themselves and would die.

Animals that eat other animals are called *predators*. The red fox is a predator. It eats rabbits, grouse, pheasants and even chickens. Foxes also eat a lot of mice and rats because they are active and plentiful. Sometimes they even catch a frog or a snake.

Foxes kill to stay alive. This killing also helps to keep the number of each kind of animal in balance. There is not enough food for all animals, so some become weak from hunger and some die from disease. The old and sick animals are easier for the predatory animals to catch and eat. Then no one kind will increase in number faster than it should.

In most storybooks, the red fox is pictured as a sly, wicked animal, but he really isn't all bad—he's just trying to stay alive.

The End

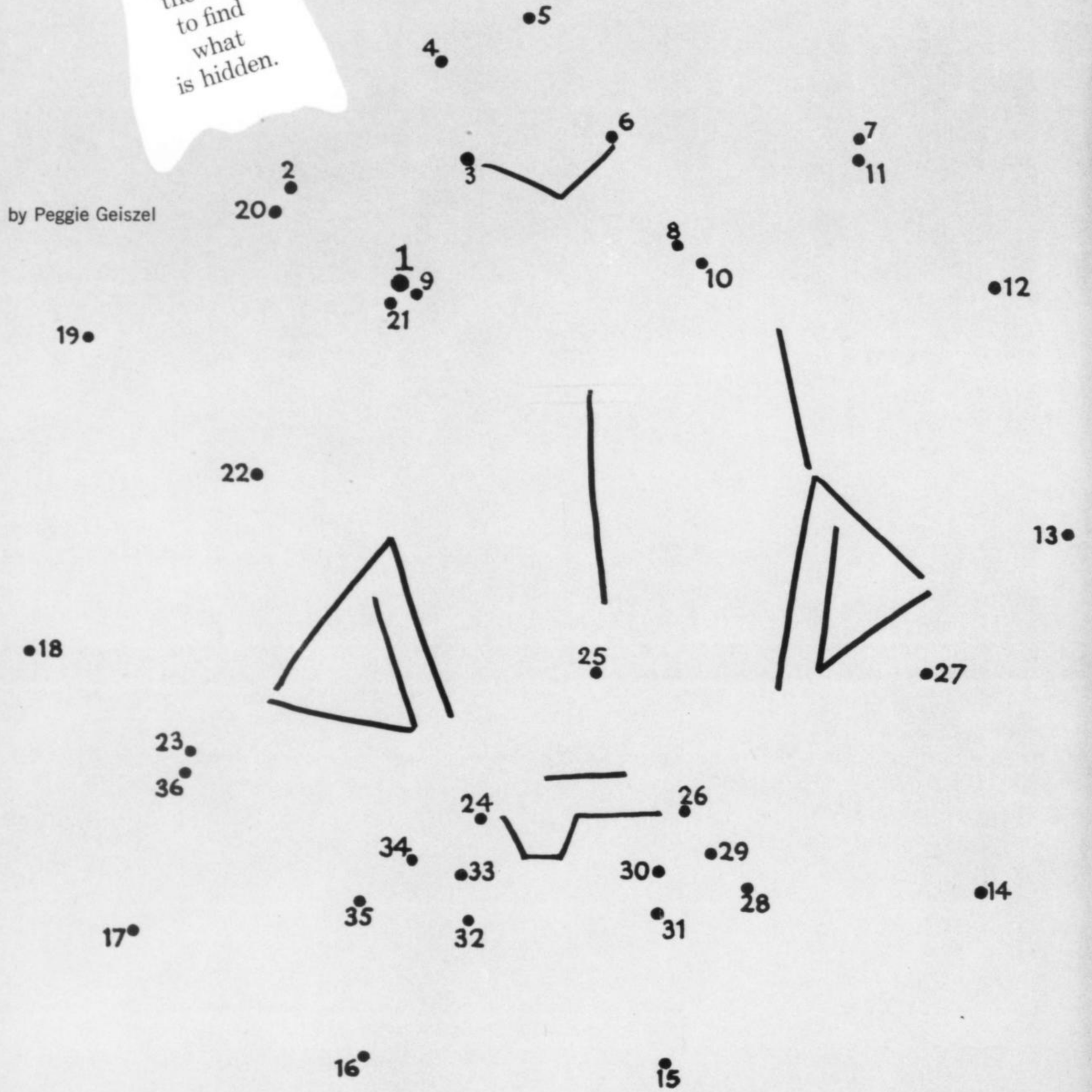
Not all foxes have reddish-brown fur. Some are black, some black sprinkled with white, and some are a yellowish-red color.

When fox pups are about five weeks old they begin to play outside the den like small puppies. In fact, the fox belongs to the dog family.

Halloween

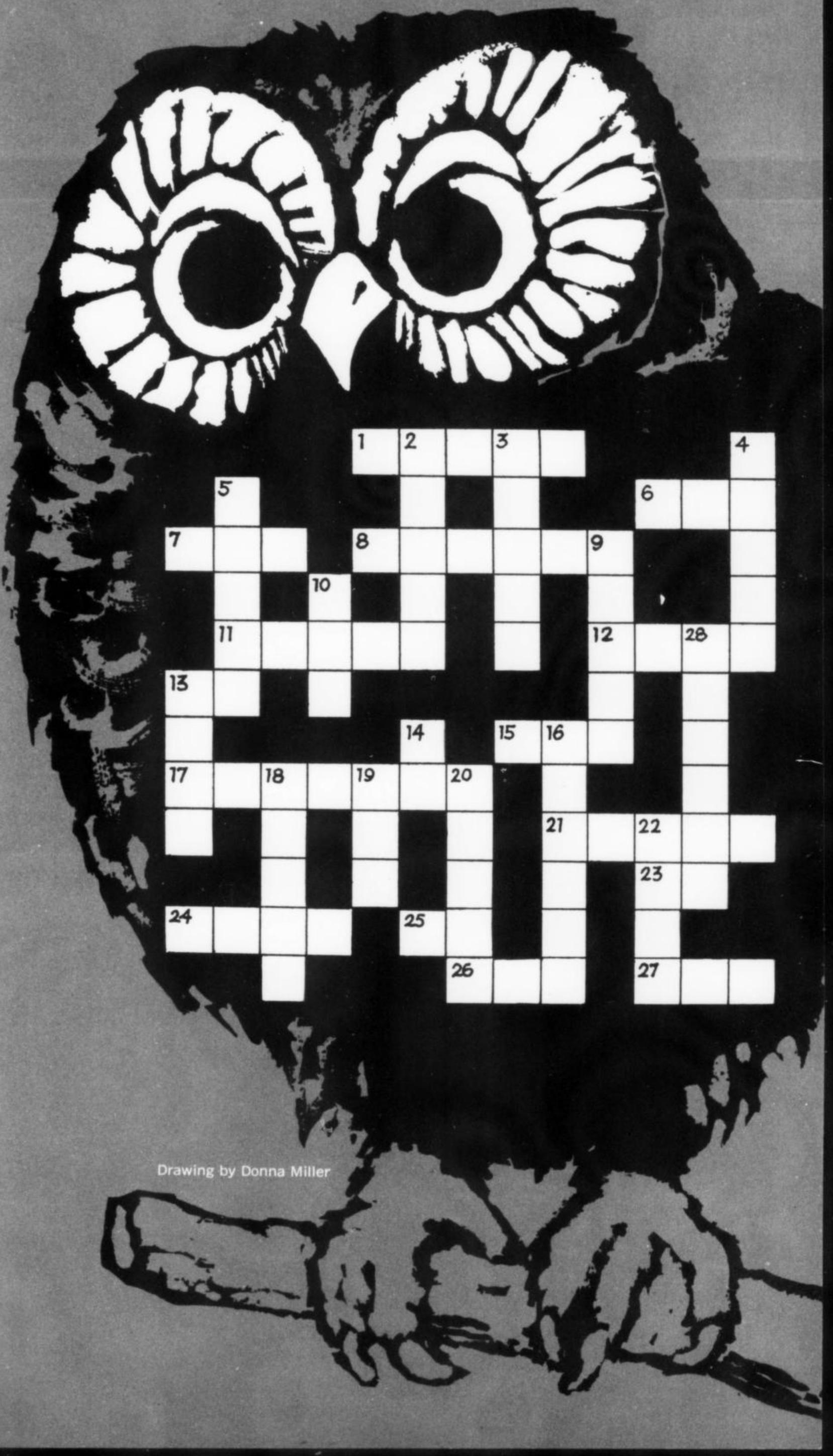
Connect the dots to find what is hidden.

by Peggie Geiszel



Fun

by Mary Frances Hildreth



ACROSS

1. One who haunts
6. We breathe it
7. _____ corn
8. A season
11. A ghost wears it
12. Sudden wind
13. Us
15. A witch's friend
17. Halloween month
21. Heaps of leaves
23. Trick-____-Treat
24. _____ o' Lantern
25. Him
26. A call for help
27. Unlocks doors

DOWN

2. Ghosts do this
3. Birds fly _____ for the winter
4. Jack _____
5. A haunted _____
9. Opposite of day
10. Opposite of no
13. Owls say it
14. Myself
16. Bobbing for _____
18. Prank
19. Flying mammal
20. Tools to gather leaves that fall
22. To use your eyes
28. A season

Answers to Crossword Puzzle are on Page 39.

Drawing by Donna Miller

Drawing by
Jack Weaver

WHO DO YOU SPOZE?

I know
It's so
That Brownies butter
Every butter-
cup.
But who
Do you
Spoze it could be
That pumps the pumpkins
Up?

—Lysbeth Boyd Borie
*from the book "Poems for Peter"**

INVITATION

Rick Raccoon sent invitations
(He sent them by the dozens)
For a Halloweening party,
To his uncles, aunts, and cousins.

He said, "We'll play till daylight,
Or till the moon grows thin,
And of course there'll be refreshments
And a pool to dunk them in.

"We'll play 'Spook Might Get You,'
And 'Goblin Spin the Pan,'
And 'Heavy Hangs the Turtle,'
And 'Catch Me if You Can.'

"We'll have a merry gathering,
With no troubles, fears, or tasks,
So please come to my party—
And don't forget your masks."

—Solveig Paulson Russell

THE PUMPKIN

I know a merry pumpkin
  Who really is a scream.
He's spent all summer growing,
  So he'd be fat for Halloween.
He wants a child to buy him
  And cut a merry face,
So he can help on Halloween
  To brighten up the place.

—Susan Womer Almond

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Fossils
tell earth's oldest story

by Mary Lou Clark

Drawing by Bob Dunne

You probably have seen pictures of dinosaurs that lived two hundred million years ago. How do we know what the animals and plants were like that long ago? If you said "fossil records," you were right.

A *fossil* is the remains or traces of an animal or plant that lived in prehistoric times. Not all things can become fossils because usually there must be hard parts such as bones, shell or wood to fossilize.

The formation of a fossil is not easy. The most important thing is that the plant or animal be buried quickly before it starts to decay. When an animal is buried it lasts longer. Then the minerals in the earth can replace the hard parts.

This happens when water from the soil dissolves the chemicals in the shells or bones and leaves them light and spongy. Little by little minerals from the water and earth creep into the bone or wood. All that is left is a "stone bone," or a petrified tree.

By studying fossils, scientists learn where different kinds of animals lived on earth millions of years ago and what the climate was like then. Where do palm trees grow now? In the tropics, of course, but fossils of tropical palms have been found in places like the Dakotas and Pennsylvania. This means that these areas must have had a hot climate when the fossil trees were alive.

We know that many animals with shells live in the sea. But fossils of these animals have been found in such inland places as New Mexico and Wyoming. Does this suggest to you that these states were once covered by a vast sea?

The scientists who study fossils are called *paleontologists* (pay-lee-on-TAHL-oh-jists). They often have to dig to find fossils to study, but sometimes they find them in rocks which have been worn away by weather. Other times a stream does the digging—as the Colorado River has done in the Grand Canyon. The picture on Page 18 clearly shows the layers which make up the earth's surface. It is in these layers most of the fossils are found.

Discovering a good place to dig for fossils means the work has only begun. When a fossil is unearthed, perhaps only a leg or jaw of the animal remains. The stone bones must be wrapped in burlap or plastered in the rock to prevent any damage. Then they are sent to a museum laboratory.

When the bones arrive they are carefully taken out of the rock. Then they are cleaned, polished and put together to form a whole skeleton.

Fossils have been found on all continents but more in North America than anywhere else. In the United States most of the "finds" have been in open, dry areas such as Arizona, Utah, Wyoming and Texas. But it is possible to find some kind of fossil in nearly every state.

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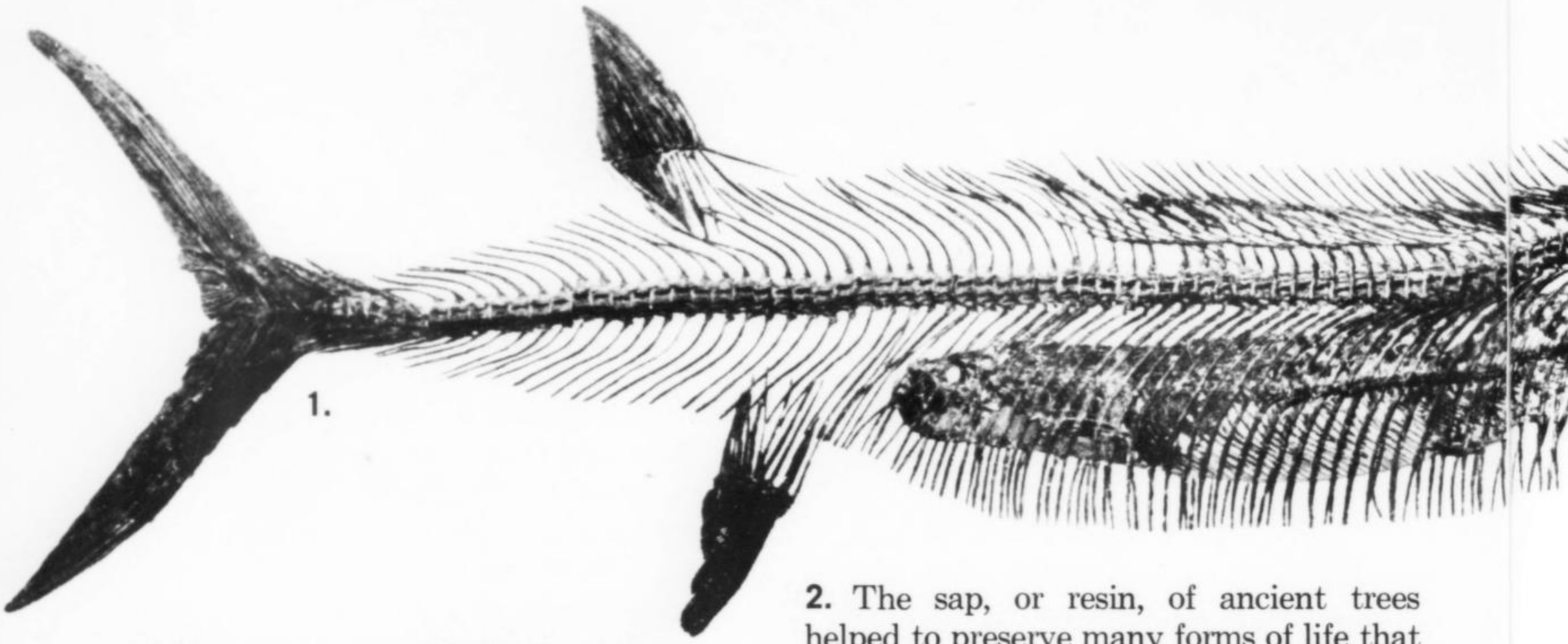


1.

1. This most unusual fossil shows that one fish must have swallowed another smaller fish just before it died. They lived in the sea which covered most of central North America. This "fossil within a fossil" was found in a chalk bed on a farm in western Kansas. Scientists believe these fish lived about ninety million years ago!

Photo courtesy of the American Museum of Natural History

2.

2. The sap, or resin, of ancient trees helped to preserve many forms of life that were trapped in its stickiness. The resin turned very hard and became a clear substance called *amber*. Inside the amber, whole, or parts of insects, seeds and leaves have been preserved.

3. In the mud of flat plains or flooded streams, animals and plants are quickly buried. Over the ages, seas covered some of these places, drained away and covered them again. Bits of clay and sand washed in from rivers and collected at the bottom. It made thick floors of sediment. Over millions of years each layer of sediment turned into rock. The fossil record is written in these many layers. One of the most common fossils is the *trilobite* (TRY-loh-bite), which lived in the sea about 600 million years ago.

4. Plants are soft and pulpy so conditions have to be just right for them to become fossils. The imprint of a fern was made in soft ground or mud which dried up in the hot sun and became hard. Then floods carried tiny bits of soil which filled in the imprint. Through the ages, the minerals in the earth's surface turned it into rock.

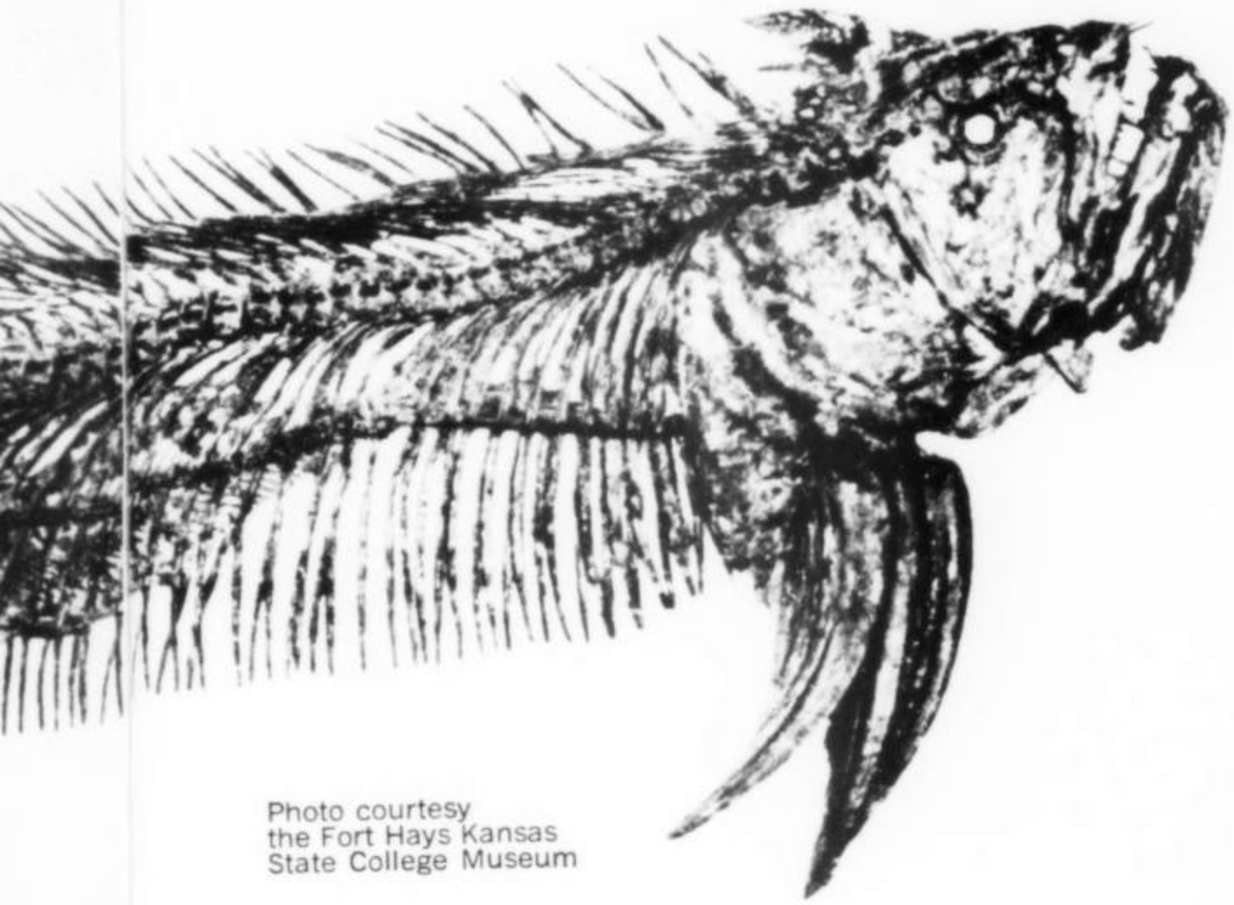
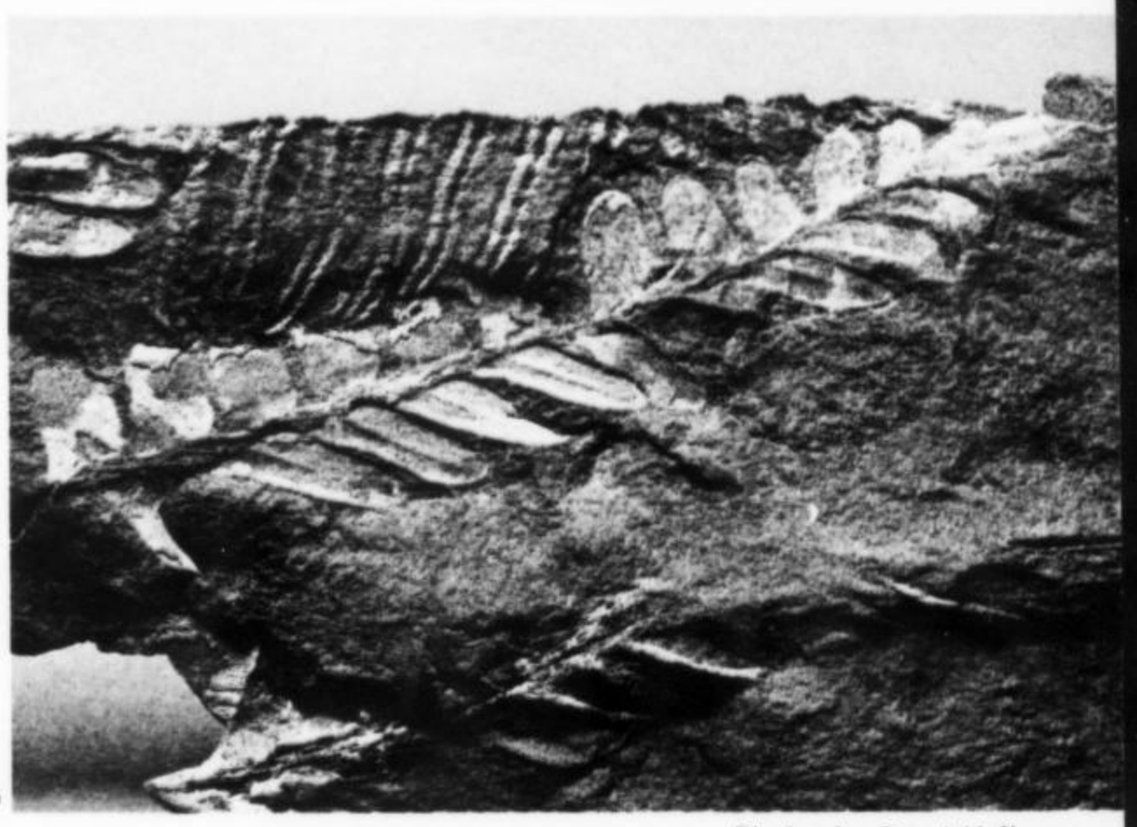


Photo courtesy
the Fort Hays Kansas
State College Museum

5. Petrified wood is another example of a fossil plant. Buried tree trunks slowly, slowly turn to stone the same way animal bones do. This picture, taken in the Petrified Forest National Park in Arizona, shows some of the giant logs to be seen in the greatest forest of petrified wood known in the world. *The End*

3.

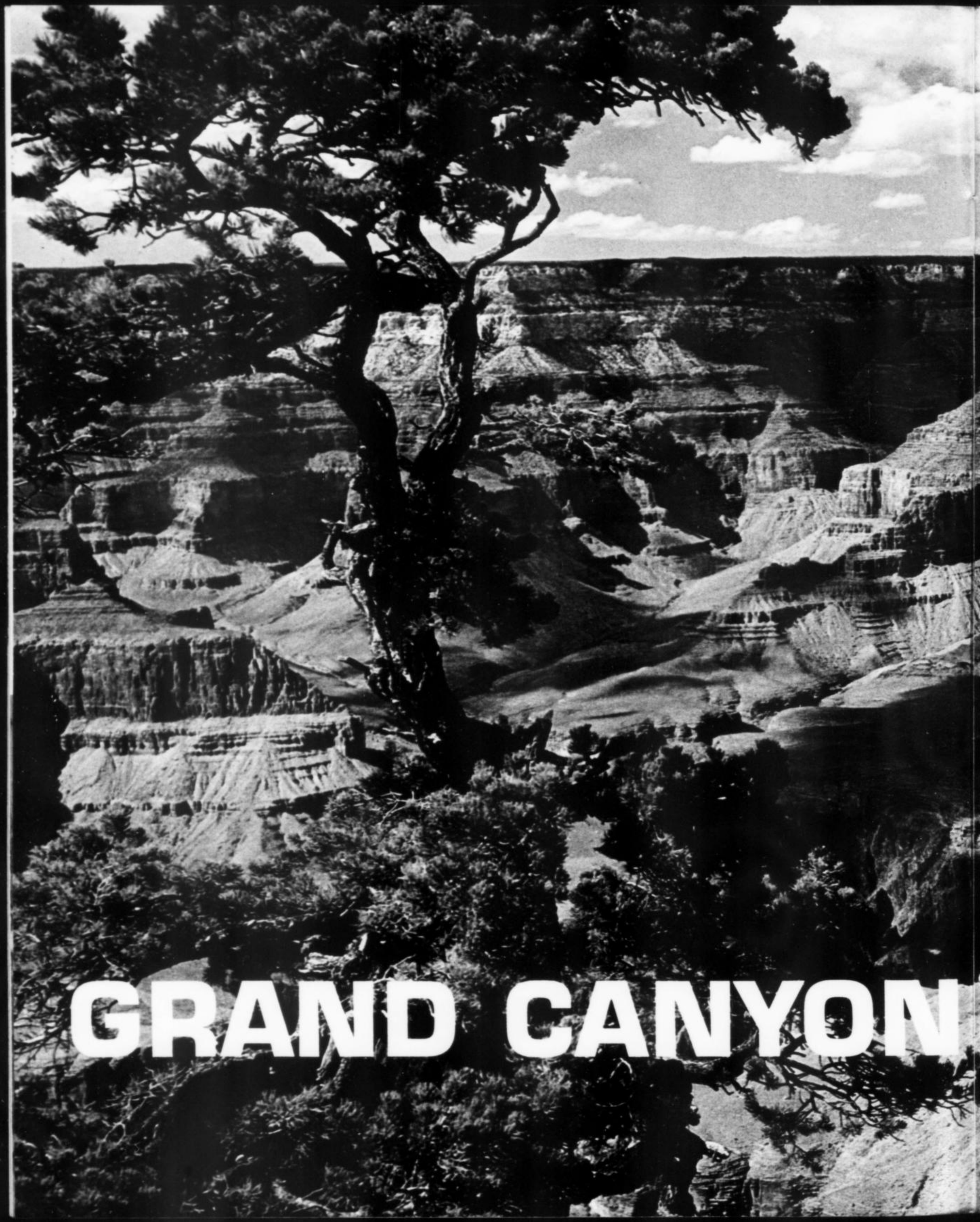


4.

Photos by Grant Heilman

Photo by Hiram L. Parent

5.


GRAND CANYON

N NATIONAL PARK

by Peter Thomson

Standing on the rim of the Grand Canyon in Arizona, the tallest father and the shortest child are suddenly the same size—very small indeed.

One can see a thousand square miles of wonderland at once, all a part of Grand Canyon National Park. The distance from the rim to the floor of the canyon is a mile down. Some of the castlelike cliffs of the opposite wall are 18 miles away.

The Colorado River looks like a twisting silver ribbon, almost lost down on the canyon's floor. Yet it is this river that made the mighty canyon. No other river in the world has cut so wide, or deep, into the earth's rocky crust.

For millions of years there was a slow rising of the earth's crust in this area. The river's bed slanted more and more each century, making the water flow faster and cut deeper into the Redwall limestone of what is now northwestern Arizona.

Every day the Colorado River carries tons and tons of sand, gravel and rock through the long canyon. This debris acts like a giant bulldozer. Many smaller streams that run into the Colorado add more cutting materials.

Please turn the page

Photo by Josef Muench

Squirrel photos by Willis Peterson

On the south rim of the canyon lives the Abert squirrel (above). The Kaibab (right) lives only on the north rim.

Also, melting snow and summer rains start landslides which rip away huge chunks of soil from the canyon walls and dump them into the raging river. The part of the river that runs through the canyon averages 300 feet wide and 12 feet deep. Wind, rain and frost have helped shape the canyon walls and the mountains inside the canyon into fairy-tale towers.

The canyon is like a layer cake with deep cuts through the layers. Many interesting parts of the story about our planet are written in the canyon's walls. Nowhere else have such old rocks been discovered as those on the bottom layer of the canyon walls. This layer was formed during a period of time called the Archeozoic (ARK-ee-oh-ZO-ic) Era. This would make the rocks about two billion years old.

Probably the only kind of life on earth then was one-celled organisms. These left no fossil remains. But higher up on the canyon's walls begins the fossil record of the earth's first living things: fossils of sea

plants and crablike animals called trilobites (TRY-loh-bites). In layers still above them are fossils of later forms of life including armored fish. Higher layers contain fossils of the first things to live on land: ferns, salamanders and lizards. Then come fossil traces of giant dinosaurs. (*Dino* means "terrible"; *saur* means "lizard.") You can read about how fossils are formed on Page 15.

The fossils found in the Grand Canyon are fascinating, but there is plenty of today's wildlife too. There are about 180 species of birds in the park. Most often seen are the desert sparrow, Stellar's jay, chickadee, nuthatch and red-shafted flicker. There are about 60 different kinds of mammals. Among them are the antelope, bobcat, cougar, coyote, mule deer and mountain sheep. Most unusual of the small mammals are the white tailed, black Kaibab squirrel, found only on the north rim, and the Abert squirrel that is found only on the south rim. We believe that at

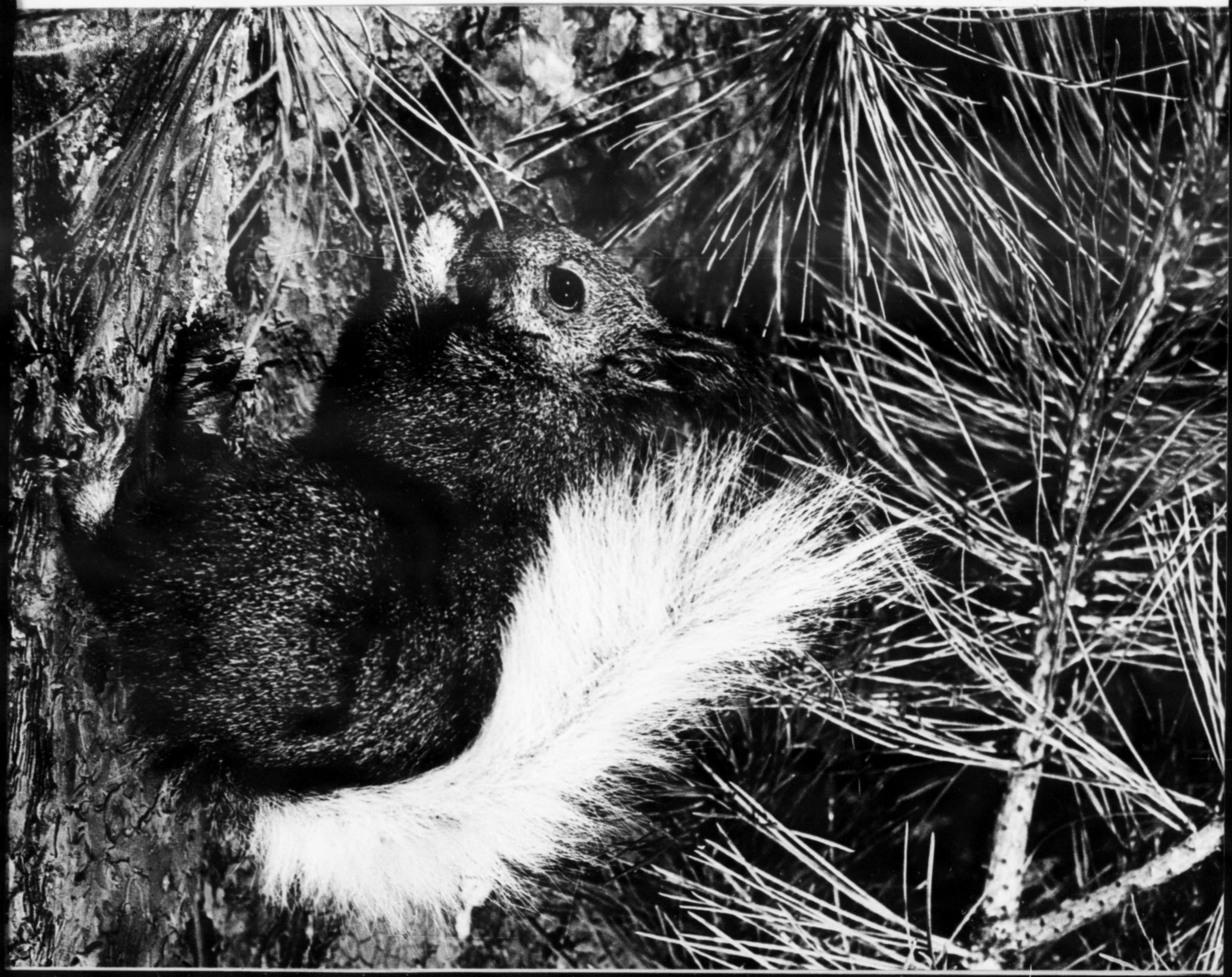
Please turn the page

In the park are handsome woodpeckers called red-shafted flickers from the "flicker" sound they make.

Photo by Harry and Ruth Crockett

Photo by Harry and Ruth Crockett

Squirrel photos by Willis Peterson



one time they were the same squirrel. But the Colorado River, steadily cutting its gorge deeper and wider, separated the squirrels and they gradually developed differently on the two rims of the canyon.

The weather at the rim of the canyon is very different from that on the floor at the canyon bottom. It might be snowing at the north rim while it is 50° F. at the bottom of the canyon. This explains the difference in plant and animal life.

In the high places there are many plants like those found in northern countries such as Canada. An example is the beautiful Kaibab National Forest, which covers the flat high ground near the north rim with spruce, quaking aspen and white fir.

At lower levels within the canyon, the plant life is more like that found in warmer climates as far south as Mexico. Plants such as cactus and sage are found there.

Only one tribe of Indians has lived within the canyon during the last few hundred years. They are the Havasupai (hav-a-SU-pie) Indians which means "people of the blue-green water." They live in one of the side canyons.

No artist or photographer has yet been able to catch the true colors of the canyon. The only way to understand what the shifting play of light can do is to see the world's greatest color show for yourself. The best way to begin to understand the great size of this mighty chasm is to go on muleback down one of the trails like the famous "Bright Angel" trail.

The Grand Canyon National Park is world-famous as one of the great natural wonders of our planet. It is a thrill to look down into the canyon, but it is another thrill looking up out of it! *The End*

Rangers: You can get more information. Send 15 cents, and your name and address to: Government Printing Office, Washington, D.C. 20402. Ask for the bulletin about Grand Canyon National Park.

RANGER RICK

Riding muleback up from the bottom of the canyon on the Bright Angel trail.

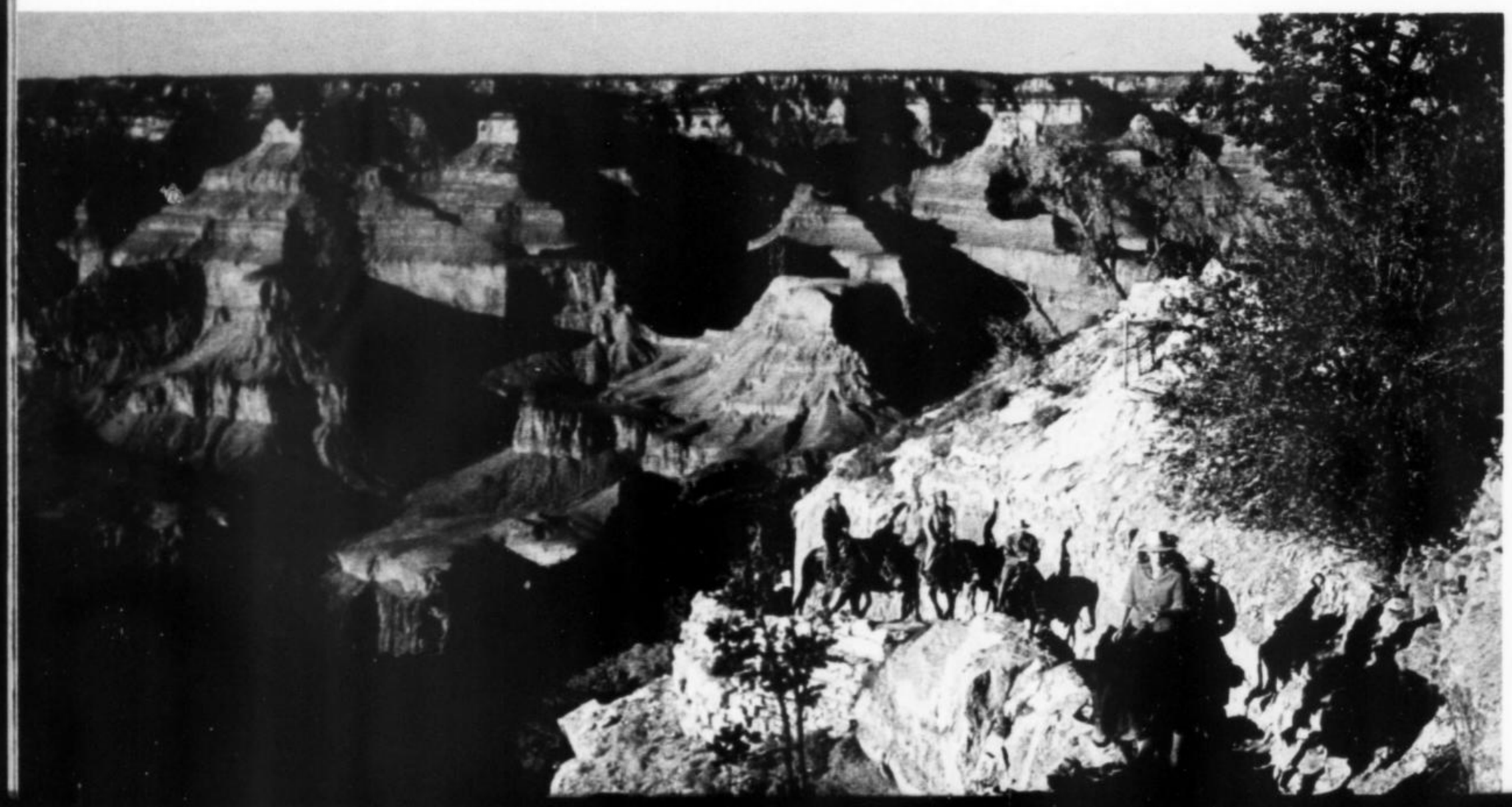


Photo courtesy of U.S. Dept. of the Interior, Grand Canyon National Park.

Bird Bands Tell Secrets

Story and Photos by Richard B. Fischer
Professor of Nature and Conservation Education, Cornell University

Suppose you were at the beach and found a dead herring gull with a metal band around its leg. If the band had numbers and the words "Notify Biological Survey, Washington, D.C.", what would you do? This experience actually happened to a girl scout troop on the shores of Lake Michigan last year. And their leader did just what the band said—she sent it to Washington. Back came the news of a new world record. The bird was 36 years old! It had been banded as a baby on an island off the coast of Maine in 1930!

How did that band get on the gull? It was put there by a bird bander who is a person licensed by the Government to catch and band wild birds. Large birds such as gulls, ducks and geese are difficult to capture as adults, so banders most often tag the young. Robins, sparrows and other songbirds are easily caught in automatic traps or in specially made nets.

Please turn the page

Photo courtesy of U.S. Dept. of the Interior, Grand Canyon National Park.

AVOCET
16 to 20 inches

HARRIS' SPARROW
7 to 7¾ inches

YELLOW-HEADED
BLACKBIRD
9 to 11 inches

BARN SWALLOW
6 to 7½ inches

NIGHTHAWK
8½ to 10 inches

CANADA

UNITED STATES

Central Flyway

BROAD-WINGED HAWK
14 to 18½ inches

BLUE-WINGED TEAL
15 to 16 inches

HOODED WARBLER
5 to 5¾ inches

RED-HEADED
WOODPECKER
8½ to 9½ inches

CANADA

UNITED STATES

Mississippi Flyway

Drawing by Bob Hines

Once a year the bander sends a detailed report of his work to the office of the Fish and Wildlife Service (the new name for the Biological Survey). The office keeps a record of the bird numbers sent to the bander. If someone finds a banded bird and reports the number to Washington, it takes only a few minutes to look up the number and find out what kind of bird it was, when, where and by whom it was banded.

No two of the 13,000,000 bands used so far have the same number. In a way, a banded bird has been fingerprinted and carries a "record." Let's see what secrets banders have revealed.

They have discovered that most songbirds live only two or three years; larger birds live longer. Banders have also revealed that birds tend to return to their birthplaces or to the same place where they nested the year before. A chimney swift that I banded nested in the same chimney five years in a row. This species kept its winter home a secret until 1944. That year, a white trader found a Peruvian Indian wearing a necklace of bird

U.S. Fish and Wildlife Service

Here are seven of the fifteen different size bands used by bird banders.

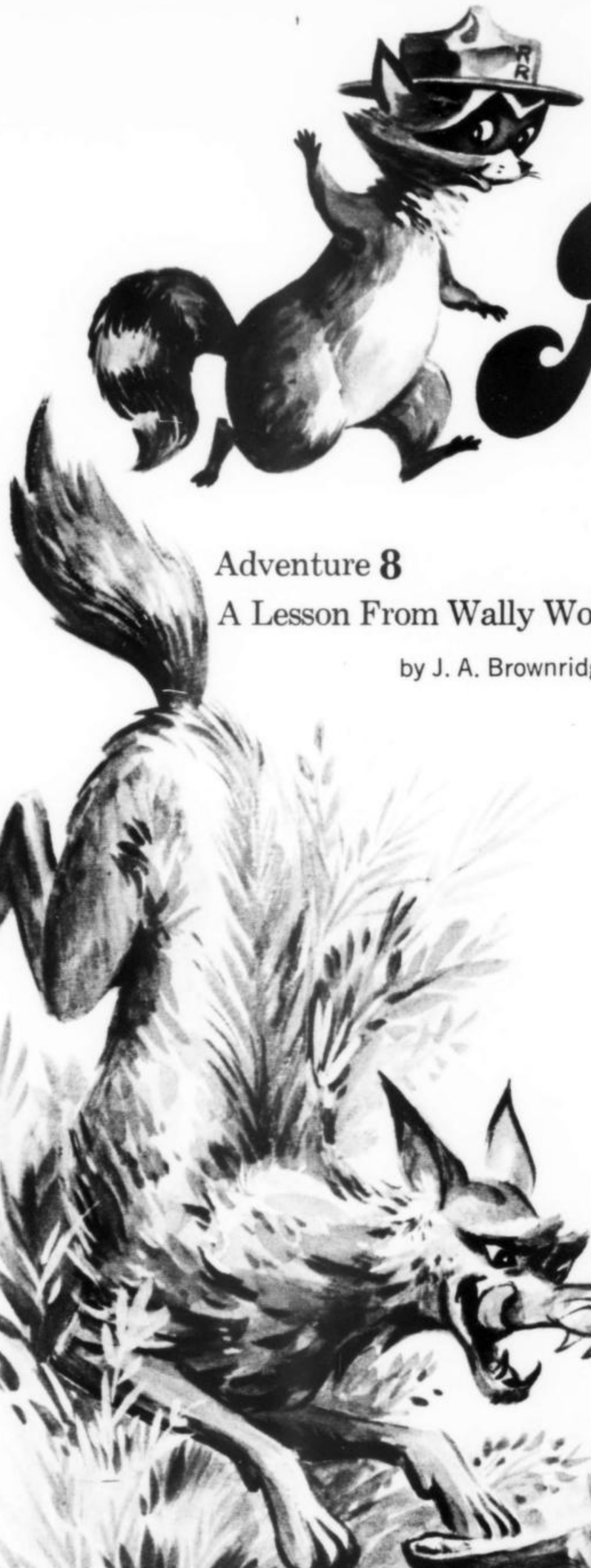
bands. The trader helped get the bands to Washington. They turned out to be from chimney swifts and now we know they winter in South America.

Are there blue jays near your home in winter as well as in summer? If so, you would say that they are permanent residents. However, bird banders tell us that some blue jays migrate between North and South like most other birds. Did you know that some birds like the evening grosbeak migrate East and West too!

On Pages 24 and 25 are maps of the Mississippi and Central Flyways and pictures of the birds we frequently see along them. (In the March issue of Ranger Rick there was a map of the Atlantic and Pacific Flyways.) Flyways are the major migration pathways across North America. Like a tree, flyways branch out in many directions as they go north. The branches of one flyway often overlap those of its neighboring flyways. Nevertheless, birds born in one flyway usually remain in that flyway all their lives. Even though our old herring gull probably made 36 round trips from his summer to his winter home he probably remained in the Atlantic Flyway every year. *The End*

Note to Rangers: In Nature Club Trail on Page 36 it tells what to do when you find a bird band and also how to be a bird bander. RANGER RICK

Some herring gulls live thirty-six years.



Ranger Rick And His Friends

Adventure **8**

A Lesson From Wally Wolf

by J. A. Brownridge

"Rick, why doesn't Ranger Tom kill off all the wolves, all the hawks and all the snapping turtles? All they do is make life miserable for us poor animals."

This was the complaining voice of Oscar Rabbit as he stood panting beside Ranger Rick. He had just won a close race to safety against Wally Wolf.

"I was having a real nice snooze, not bothering anybody, when Wally sneaked up behind me. If Jerry Jay hadn't warned me just in time, I'd have been a goner."

"You shouldn't talk that way, Oscar," scolded Rick. "I thought all our Rangers knew that there is a place in nature for every kind of bird, fish and animal. It's only when nature gets out of balance that everybody gets into trouble."

"What do you mean, 'out of balance,' Rick?" asked Oscar in a puzzled voice. "I sometimes balance on a log and Sammy Squirrel balances on a tree limb, but I

Please turn the page

can't see nature balancing on anything."

"Well, it does in a way," replied Rick. "Everything in the world has its own place and has to stay in balance with everything else. Nature sometimes seems cruel and we sure think so when Wally catches one of our friends.

"Every field, pond or wood grows only enough food each year to feed a certain number of wildlife. If too many try to live there, the food runs short and everyone fights to get as much as he can. The weak ones don't get enough and become sick. Then when they're crowded together with others, even the strong ones get sick too, and many die. Sometimes whole colonies are wiped out."

"Gee, Rick, why doesn't this happen more often?" asked Oscar.

"That's where balance of nature comes in," answered Rick. "Every bird and animal has its natural enemies that catch the weak or careless and keep us from running out of food and places to live.

"I was over near Farmer Brown's house yesterday and I heard Mrs. Brown. She sounded angry because somebody had eaten off some of her prize flowers. She wished she could get rid of all the rabbits."

"I didn't eat that much," said Oscar.

"No, but if there were a lot more rabbits around, they'd have to eat more of Farmer Brown's food. Then he'd be very angry and would have to get rid of rabbits or he and his family would soon have no crops and they'd be hungry and sick."

"Yes, but who keeps Wally Wolf and his friends under control?" complained Oscar. "They're so big nobody can bother them."

"Oh, yes, they can," laughed Rick. "In the first place, it's not necessary to be big to be dangerous. Many diseases and parasites kill wolf pups and when they do grow up, many men hunt and trap them."

"What's a parasite?" asked Oscar.

"Parasites are small animals or plants that live in or on other animals or plants and often make them so sick that they die.

Many wild animals have them, especially wolf pups," answered Rick.

"How about hawks and snapping turtles—is that what controls them too?" continued Oscar.

"Sometimes," said Rick. "Other birds and animals hunt for their eggs as well as their babies so they have lots more enemies.

"Even some people who are supposed to be smart don't know how much good these animals do. Sometimes people eliminate one kind of wildlife from their area. Then they suddenly find insects or animals such as mice destroying their crops. Their natural enemy is gone and insects and mice multiply without control. Then men have to bring back the animals or birds to help control the problem they made."

Rick and Oscar were so busy talking that they hadn't noticed the loud chattering from Jerry Jay high up in the treetop or the angry barking from Sammy Squirrel just around the bend. These are danger signals of Deep Green Wood and all animals had better pay attention.

Rick looked just in time to see a big gray form flying through the air straight at him. He leaped aside as fast as he could . . . but it was too late. Wally Wolf hit him on the side and Rick went head over heels in one direction, while Oscar Rabbit tumbled in the other direction.

Wally skidded to a stop with a yelp of victory. At last he had his enemy Ranger Rick right where he wanted him. But he also had that nice tender rabbit too. Which one should he grab first?

For just a few seconds he hesitated, wishing he could get both. In those few seconds, Rick, who had been knocked dizzy, struggled to his feet.

"Run, Oscar!" he yelled.

Oscar, frightened almost out of his wits, ran as fast as he could into the bushes.

With a loud snarl, Wally leaped at Rick, teeth bared and jaws snapping. Rick jumped aside and ran for his tree, but Wally was too close behind him.

Snap went Wally's teeth again right behind Rick's tail. Around the tree he went with Wally skidding right behind

Please turn the page

him. Into the hollow log raced Rick. But Wally had been fooled by this trick before and as Rick rushed out the other end, he could feel Wally's hot breath.

Down the bank toward Clear Creek ran Rick, then back again toward the hollow log. In he went and with a mighty leap Wally blocked the other end. But this time Rick spun around as soon as he was inside and dashed out again.

Like a tan and gray shadow Rick flew into the bushes. Down the bank and into the stream he went, and swam rapidly upstream to a tree that hung low over the water. Quickly he caught a branch, pulled himself out of the water and climbed as high as he could go.

It wasn't long before Wally realized he had been tricked again. Snarling angrily, he hurried back sniffing for Rick's trail. Down to the stream he went and there the trail ended. He sniffed up and down the stream trying to find where Rick had come out. So intent was he on looking for tracks, he didn't look up to see Rick high above, pressed close to the trunk of a tree.

Finally Wally gave up and turned sadly away to his own home.

Carefully Rick climbed down from his perch and scampered back to his den. Oscar Rabbit was there already, hoping that Rick would soon be home.

"Oh, boy, I'm glad to see you, Rick," said Oscar when he saw his friend coming. "I thought you were finished for sure."

"I thought so too for a while," Rick replied a little breathlessly.

"Now, what do you think about that *balance of nature* you were telling me about?" asked Oscar. "Do you still think we need wolves and friends like them?"

"I sure do," said Rick firmly. "We need every single kind of bird and animal in the world. Our Rangers must know this so that we don't destroy wildlife. Many bad things can happen if any kind is wiped out. We must stay healthy and alert. We mustn't get careless as I did. Only the strongest and fittest survive anywhere in our wildlife world. This is nature's way of keeping us all healthy. When nature's balance is upset things may fall which no one thought about. Sometimes whole living communities are destroyed. We must be very careful that this doesn't happen. We need *every* kind of wildlife for our wonderful world.

The End

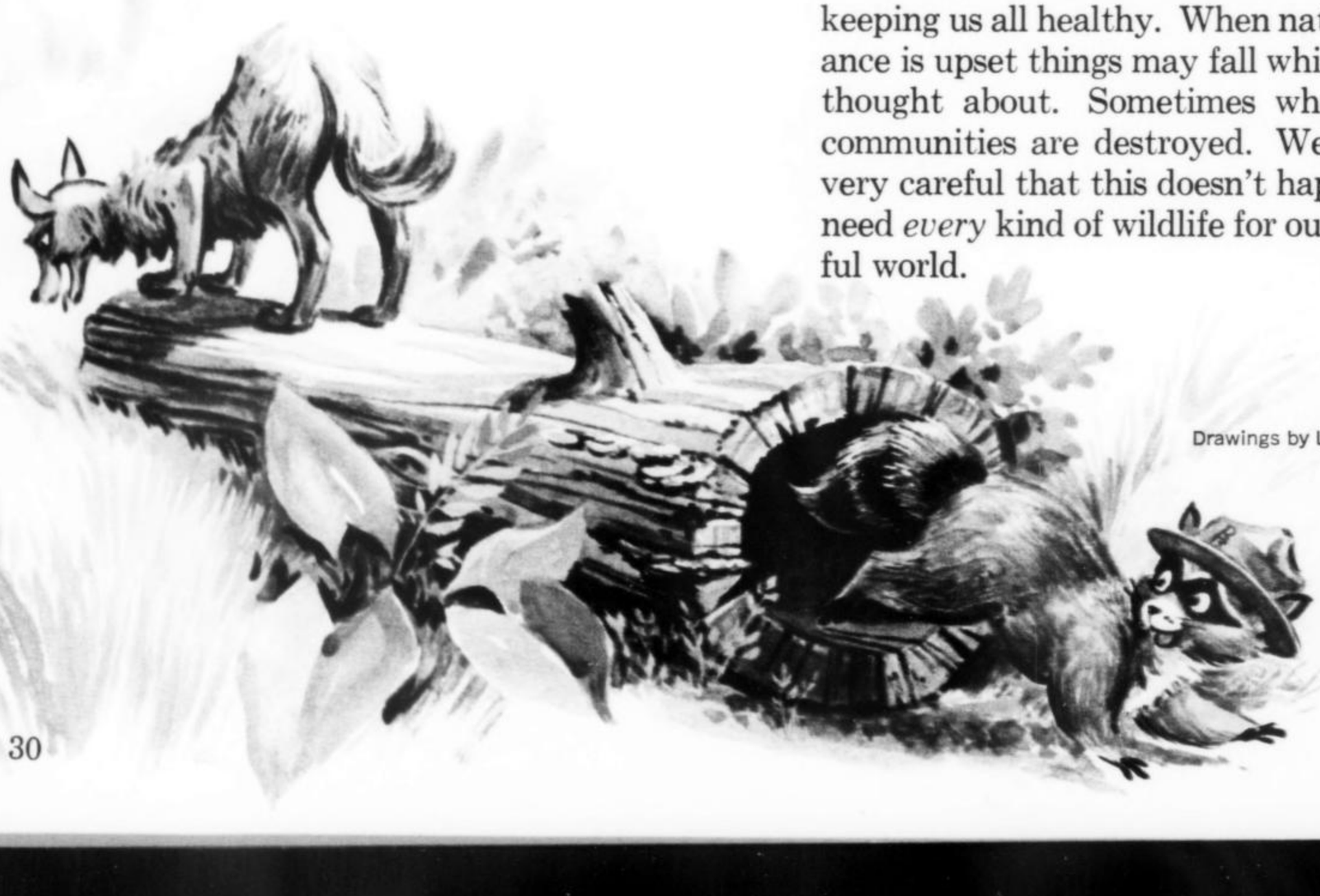
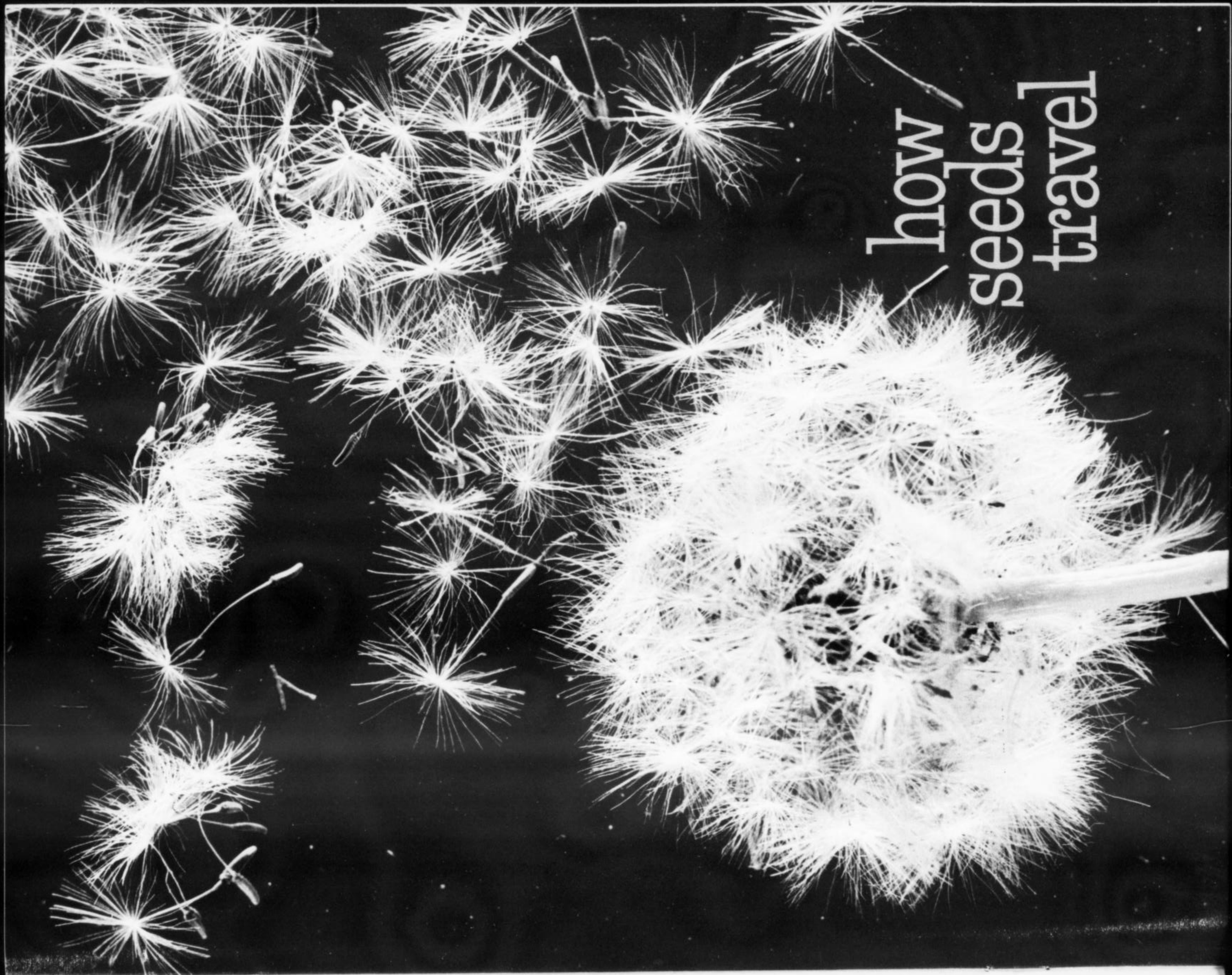


Photo by Grant Heilman

Drawings by Lorin Thompson



how seeds travel

Photo by Grant Heilman

by Sally Wright

how seeds travel

A plan for becoming a certain kind of plant lies hidden in every seed—a blueprint for anything from a tiny flower to a giant tree. To carry out the plan, the seed must first be planted.

Farmers and gardeners plant seeds where they will grow best. But out in the woods and fields seeds are planted in other ways. If ripe seeds simply dropped to the ground beneath the parent plant they would crowd themselves to death.

There are many different ways by which plant seeds are scattered. Within a pod or fruit containing the seeds, all sorts of "get-away" materials are made—such as springs, coils, hooks, elastic, cork, waterproofing, shellac, gelatin and fluff. Each triggers a different kind of get-away.

When you wear maple keys on your nose, you pick them up from one place and later drop them in another. This helps seeds travel. The fox squirrel also helps. He gathers a lot of acorns and hides them in storage for winter. The ones he overlooks sprout during the spring and seedling trees take root.

Photos by Edmund Appel, Karl Maslowski, Photo Researchers, Inc.

Seeds That Fly. Some seeds are attached to silky fluff or little plumes which ride the wind like parachutes or kite tails. Dandelions, thistles, milkweed and clematis are a few that have these.

Other seeds have wings like the wings of insects. These are seen on maples and other trees. An ailanthus tree seed has a wing with a stout point at the top which helps it dig in when it lands. Ash tree winged seed pods twist slightly while ripening and become little propeller blades when caught by the wind.

Some seed wings are rounded and weighted so they twirl like weather vanes in the wind. Linden trees have clusters of little round balls which sail off in the wind like a bunch of toy balloons.

Seeds That Slide and Roll. Some seeds do not ripen and fall to the ground until very cold weather comes. Then the pods split, fall and sail off like light, flat iceboats or sleds. Lamb's quarters and prickly pigweed are snow gliders.

Out on the wide open prairie and desert lands where there is plenty of room, plants like the tumbleweed have seeds that roll places. The stem breaks off at the ground and the whole plant takes off in the breeze, scattering the ripened seeds as it tumbles. A single tumbleweed may carry as many as 180,000 seeds. Other rolling plants are tumbling mustard and pigweed.

Seeds That Float. Some seeds have waterproof outer skins over a spongelike inner pulp. Others have corklike material attached to them which acts like a little life preserver. Kentucky coffee tree beans, arrowhead and narrowleaf dock are short-distance water travelers. A few seeds, such as molucca beans from the Spice Islands,

Photo by Robert Dunne

The waterproof coconut sometimes travels for miles on a river or the ocean. When it drifts ashore, a single leaf sprouts and it becomes a young palm.

are able to make ocean voyages of hundreds of miles. So are coconuts with their waterproof rinds and fibrous outer husks.

Hitchhiking Seeds. This type of seed has barbed hooks. When the seed is ripe, the "fishhooks" stick tightly to the first passer-by who knocks against them—be it animal or man. Spanish needles, beggar ticks and a lot of burrs get long rides this way.

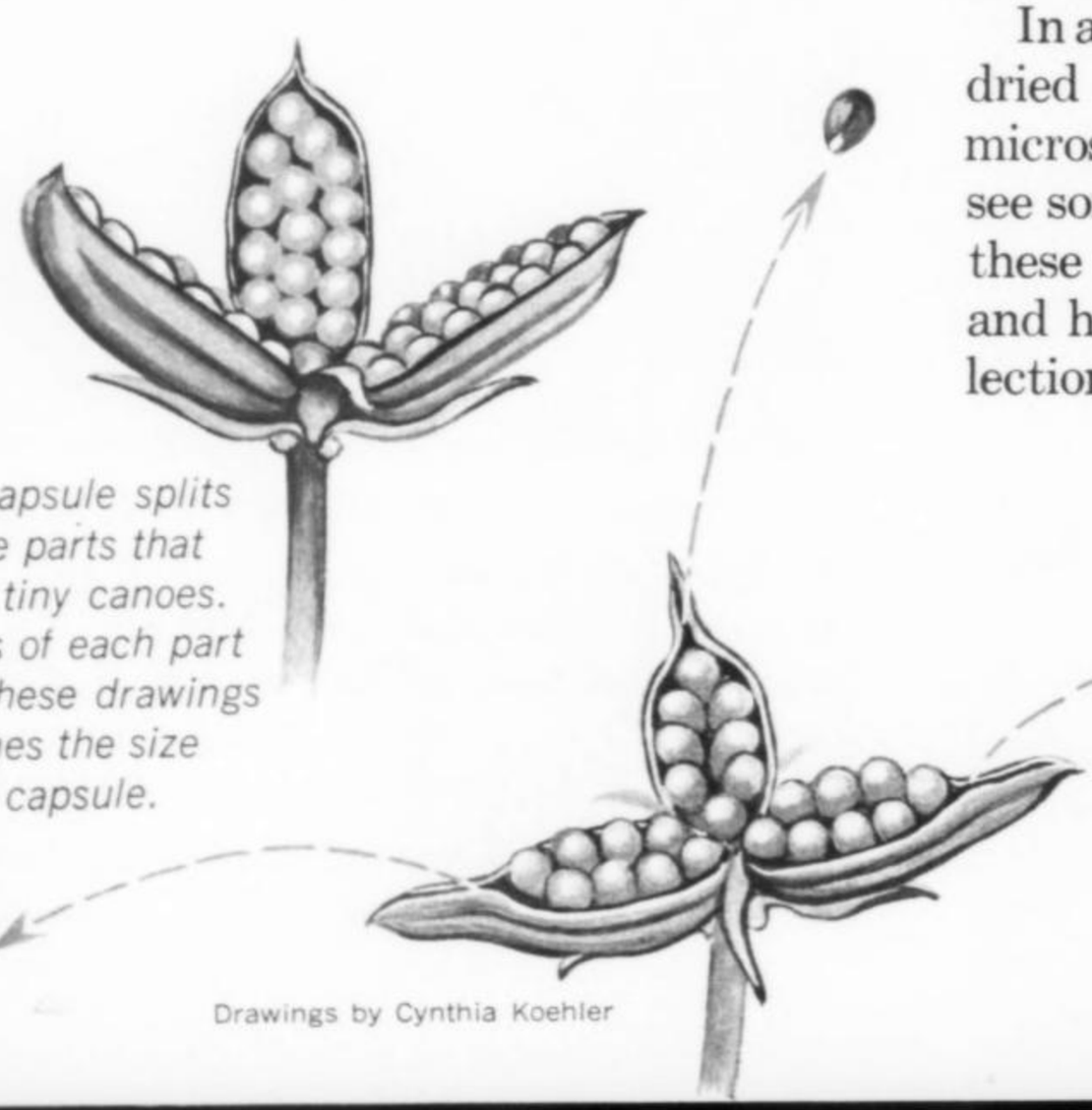
Birds plant many seeds. All the berry-type seeds are covered with a thick pulp. At first this is hard, bitter or sour and dull in color so they are of no interest to birds. But when the seed is ripe and ready for planting, the pulp becomes soft, sweet and colorful and birds gobble it up. The seed itself is indigestible and is left behind

Please turn the page

Photos by Edmund Appel, Karl Maslowski, Photo Researchers, Inc.

1. The violet seed machine is an oval capsule hidden under loose dirt or leaves.

2. As it ripens all summer, the stem stiffens and finally pulls it out.



3. The capsule splits into three parts that look like tiny canoes. The sides of each part shrink. These drawings are 3 times the size of a real capsule.

4. The seeds are pinched out one at a time beginning at the tip. They are tossed sometimes as far as 15 feet.

in the bird's droppings. Birds also plant seeds directly into the ground. The blue jay plants acorns. Some other animals like the squirrel plant seeds too.

Seed Machines. There are seeds that shoot their way out of the pods—often as far as 40 feet. Usually the sun's heat starts this action.

Sometimes the force is triggered by rapid drying of one part. This squeezes the inner half of a smooth, tapering seed and snaps it out.

Sometimes the force is produced by an elastic twist of the inner parts; or by wound-up springs; or by water suddenly rising in the stem. No two machines are exactly alike, but you are likely to find some that work like slingshots, popguns, rockets, torpedoes, corkscrews or cannons.

The touch-me-not is one seed that you can touch off by yourself. Just poke the ripe pod with your finger. Like a flash the pod will twist and curl and fire seeds in every direction. Other plants with seed machines are witch hazel, violet, wild geranium, New Jersey tea, jumpseed and dwarf mustard.

In a field or woods you could collect these dried pods. Then study them under a microscope or hand magnifying glass and see some of their inner secret parts. With these pods plus seeds that fly, glide, float and hitchhike, you could build a real collection of wonders. *The End*

Drawings by Cynthia Koehler

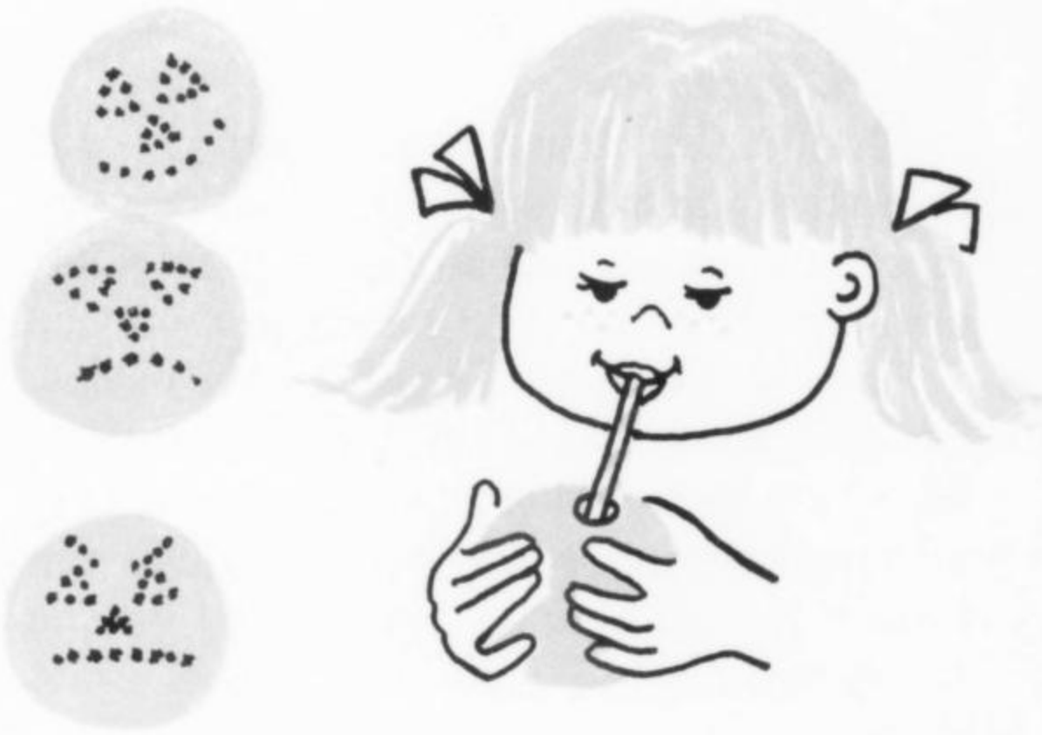
Ollie Otter's FUN and GAMES

Party Favors

If some of you Rangers are going to have a Halloween party or a little extra celebration at your next Nature Club meeting, you might enjoy making your own pumpkinlike party favors with oranges and cloves. Ask your mother to help you get together enough oranges for each person invited. You will also need some toothpicks and whole cloves.

You can make different kinds of faces on these "pumpkins"—silly, frowning, smiling, scary. With a toothpick, punch holes in the orange skin for eyes, nose and mouth. Then stick a clove in each hole. Make more holes for the hair. Stick more cloves in these holes.

When you have finished, each of you will have a sweet, spicy favor called a "pomander" to take home and keep in your room on a saucer.



Party Snack

Get one orange candy stick for each orange. Cut a cone-shaped hole at the top. Use the candy for a straw and PRESTO you have a party snack! Just squeeze the orange for more juice.

Food Funnies From Rangers

Q. What do ghosts eat for breakfast?
A. Ghost toasties and evaporated milk.

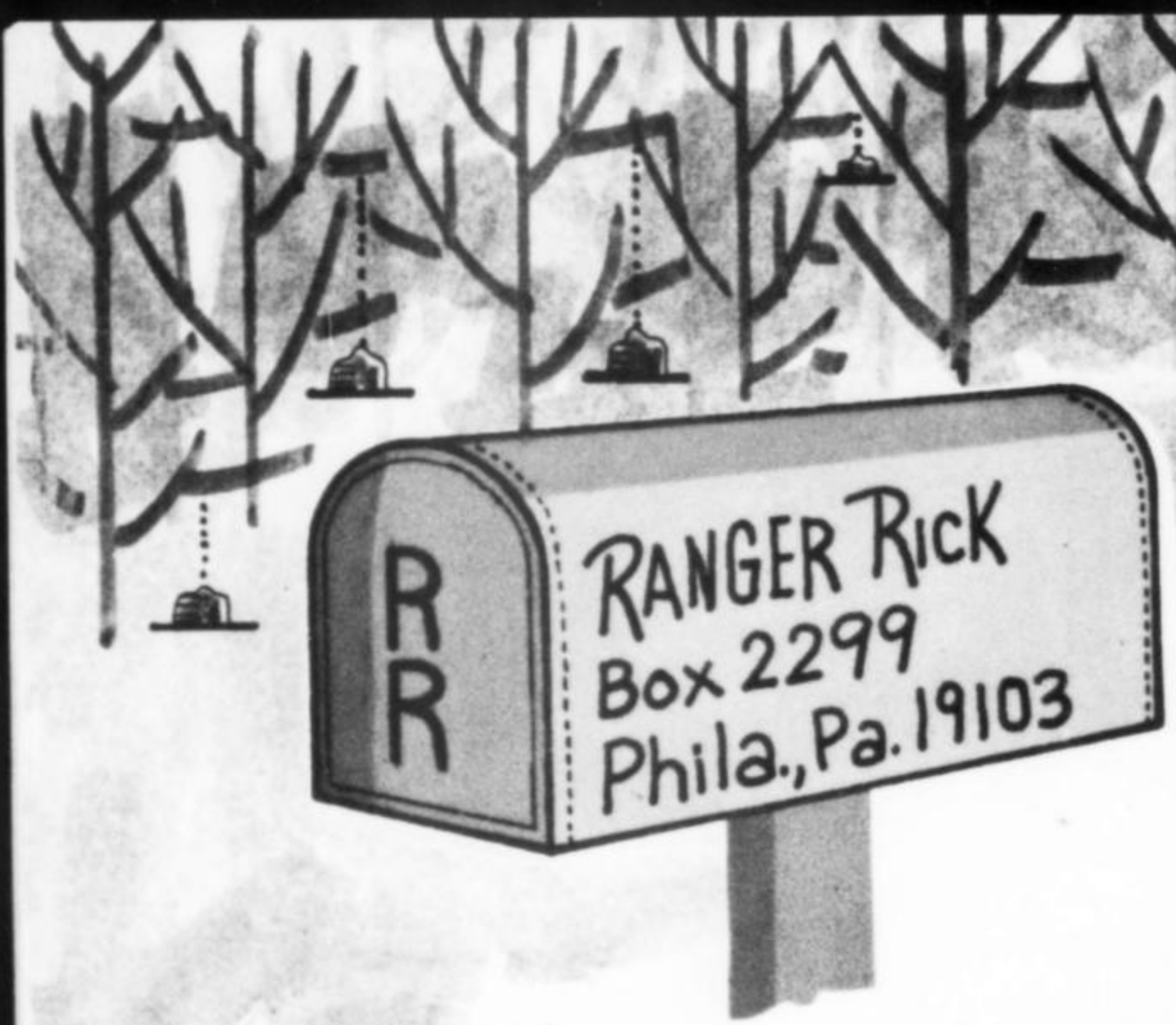
Mother: Eat your spinach, dear. It will put color in your cheeks.
Little Girl: But I don't want green cheeks.
—Mickey Myers, Age 9, Illinois

Q. What kind of cake do sculptors eat?
A. Marble cake.
—Kathy Fulk, North Carolina

Q. What is an astronaut's favorite sandwich filler?
A. Launch meat.
—Harry Wambach, Age 9, Pennsylvania

Q. What did the beaver say to the tree?
A. "It was nice gnawing you."
—Eddie Lieser, Age 8, Ohio

NOTE: Send your favorite riddles and jokes to me in care of Ranger Rick, P.O. Box 2299, Philadelphia, Pa. 19103. Be sure to give your name, age and address.



ALONG THE NATURE CLUB TRAIL WITH RANGER RICK

Hi, Rangers!

All of us in Deep Green Wood are very anxious for you to see this month's magazine. It's full of good stories. There is one on Page 23 about bird banding.

Have you ever wondered how we know so much about wild birds? Have you ever found a bird band? Do you know someone who has? Here is what to do if you happen to find one:

1. Straighten the band.
2. Tape it to a piece of writing paper.
3. Print the following information:
   Your name and address.
   All letters and numbers on the band.
   The date you found it.
   The place where you found it (nearest town, with county and state).
   Tell how you found the band (on a bird found dead, shot, trapped or some other way).
4. Place your information and the bird band in an envelope and send to:
   Bird Banding Office
   Patuxent Wildlife Research Center
   U.S. Fish and Wildlife Service
   Laurel, Maryland

If you find a *live* banded bird, DO NOT take off the band. You might injure the bird. Instead, read the number on the band, write it down, and let the bird go—carefully. Send all the information you can to the Bird Banding Office.

Picture by Luther Goldman – Courtesy of U.S. Fish and Wildlife Service

Who Can Band Birds?

Bird banders must be at least 18 years old and know how to identify all the common birds. Then they may apply for a banding permit from the Fish and Wildlife Service.

If you are under 18 you can still help the work of bird banding by sending in bands that you find. Then we will all learn more about our birds and their secrets.

Did you read about my adventure with Oscar Rabbit on Page 27? Wow, was that close and to think that Wally Wolf almost caught me!

Not too long after that happened, I went to see Ranger Tom. I told him what I had said about the "balance of nature."

"Did I get it right, Ranger Tom?" I asked.

"You did a good job, Rick," said Tom. "And Oscar Rabbit had a good point, too, when he talked about Sammy Squirrel *balancing* on a branch. Did you ever notice how he does it?"

"Yes, he flicks his tail around," I said, "and when the branch moves he leans a little bit this way and that way."

"Right!" said Ranger Tom. "It's like that with nature. Everything in it is either moving or being moved in order to stay in balance."

"Like my being moved up that tree by Wally!" I chuckled. Then I said, "Plants are part of nature, but they can't run or fly like my friends in Deep Green Wood."

"Even leaves are busy like the leaves in the story on Page 6," said Tom. "Think of all the movement that is going on in them while they make food for trees. Leaves of all plants do that."

But I thought of something else. "Would you say rocks and soil move?" I asked.

"What about the tons of rock and soil the Colorado River moves every day?" asked Ranger Tom. "What about the way the earth's crust has moved up and down as in the fossil story? Of course, that kind of motion takes so long, people don't even know it's going on, except when there is an earthquake. But it's part of the way soil is made and it is an important part of Nature's balancing act."

I guess I looked embarrassed, because Ranger Tom patted me and said, "I'm glad you mentioned plants and soil. You'll soon see why. What I'm going to say next is about food."

"My favorite subject," I said.

"It *should* be!" Ranger Tom exclaimed. "Food makes your bones and muscles grow big and strong. It also gives you extra energy to run away from Wally, or to find more food for yourself."

"For myself," I said, "if Wally doesn't catch me. Otherwise I'm just making food for him!"

"You're so right," said Tom. "When Wally eats you, he gets the benefit of

Please turn the page

Is Your Picture Here?

The pictures on this page are from Rangers who wish to say "Hello!" to all you other Rangers. If your Nature Club would like to become an Official Branch of the National Ranger Rick Club, write to the address on my mailbox and ask for an Official Branch Information Kit.

Ranger Andrea Reaves
Age 8, Oklahoma

Ranger Johnny Willis
Age 5, Pennsylvania

Ranger Ray Virden
Age 9, West Virginia

foods that you have eaten."

"Do you have to get so personal about this?" I asked.

It was Tom's turn to be embarrassed. "Let's forget about you and Wally and think about—well, how about Father Red Fox in the story on Page 8?"

"I can probably think more clearly about that," I chuckled.

So Ranger Tom said, "Let's say the red fox catches a rabbit—NOT Oscar," he added quickly. "Next thing we have to know is what the rabbit eats."

"He eats plants," I said.

". . . and plants," went on Tom, "get their food from minerals in the soil, from water and from sunlight. So you have a FOOD CHAIN—from fox to rabbit, to plants, to soil, water and sunlight.

"But there's another part to it. Suppose a parasite like a tick or flea lives on the fox and makes him sick and he dies."

"Then a buzzard or an opossum might pick his bones pretty clean," I said.

"Yes," said Tom. "They are part of the food chain too. There are organisms that live in the soil and are known as 'bacteria of decay.' The bacteria will turn what is left of the fox back into minerals. These are the same minerals that plants use. So the chain links into a full circle."

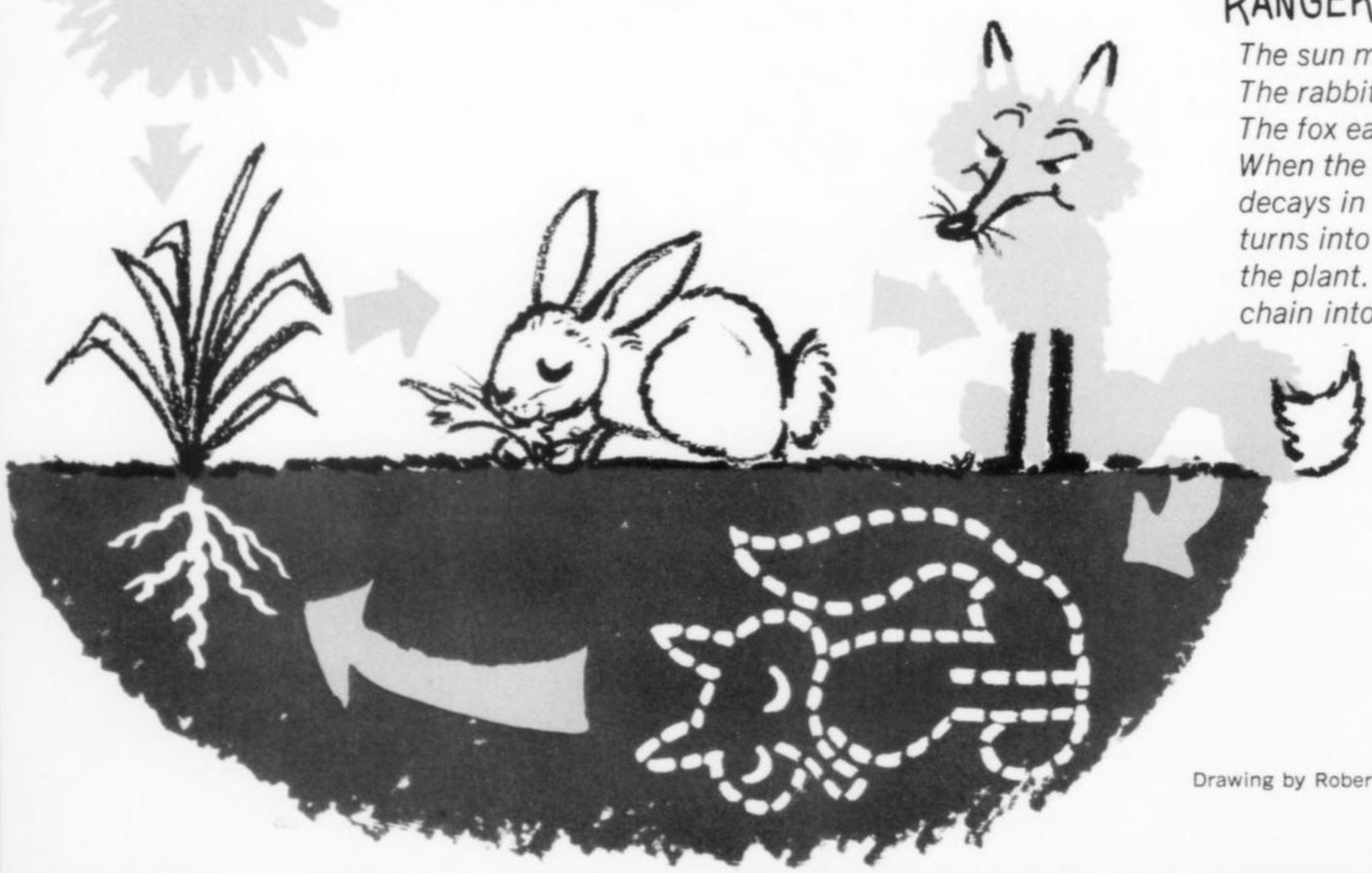
"Pretty neat," I said.

"Yes, but it's not quite as simple as I've made it," replied Tom. "If you add even one other animal—like a frog—that the red fox catches and eats, you have a FOOD WEB. A simple food chain looks something like this." Tom went to an easel he uses for chalk talks and drew the food chain you see on this page.

While Tom was drawing, I kept thinking what a crisscross he would get if he put in *all* the things a red fox eats. What would happen if he put in the whole Deep Green Wood Ranger Patrol? No wonder the balance of nature is something he had better not fool around with! If too many threads are broken the whole food web is upset and somebody will not have anything to eat.

RANGER RICK

The sun makes plants grow.
The rabbit eats the plant.
The fox eats the rabbit.
When the fox dies, his body decays in the ground and turns into minerals that feed the plant. This links the chain into a circle.



Drawing by Robert Jefferson

Who-O-Knows

by Wise Old Owl

Rangers' Questions

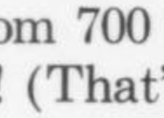
How big is the largest turtle in the world?

—Donald Howell, Age 9, Tennessee

The largest turtle is the Atlantic leatherback. It weighs from 700 to 1600 pounds and, possibly, a ton! (That's 2000 pounds.) It measures from 4 to 8 feet and lives in the warmer waters of the Atlantic Ocean.

In North America, the largest turtle is the alligator snapping turtle. It lives in streams that flow into the Gulf of Mexico. It averages from 15 to 26 inches in length and from 35 to 150 pounds in weight. The record weight is 219 pounds.

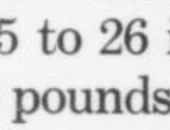
Millions of years ago there was a sea turtle that was 12 feet long. It swam in the sea that covered South Dakota. It may have weighed 2000 pounds! We know this because of fossil remains. (If you don't know what a fossil is, see Page 15.)



Why do the leaves on a tree turn to a different color in the fall?

—David Ritchey, Age 9, Ohio

If you will turn to Page 6 you will find the answer to your question—"Autumn Is a Painter."



I would like to know how long elephants live? And tortoises too?

—Laurie Hollister, Ohio

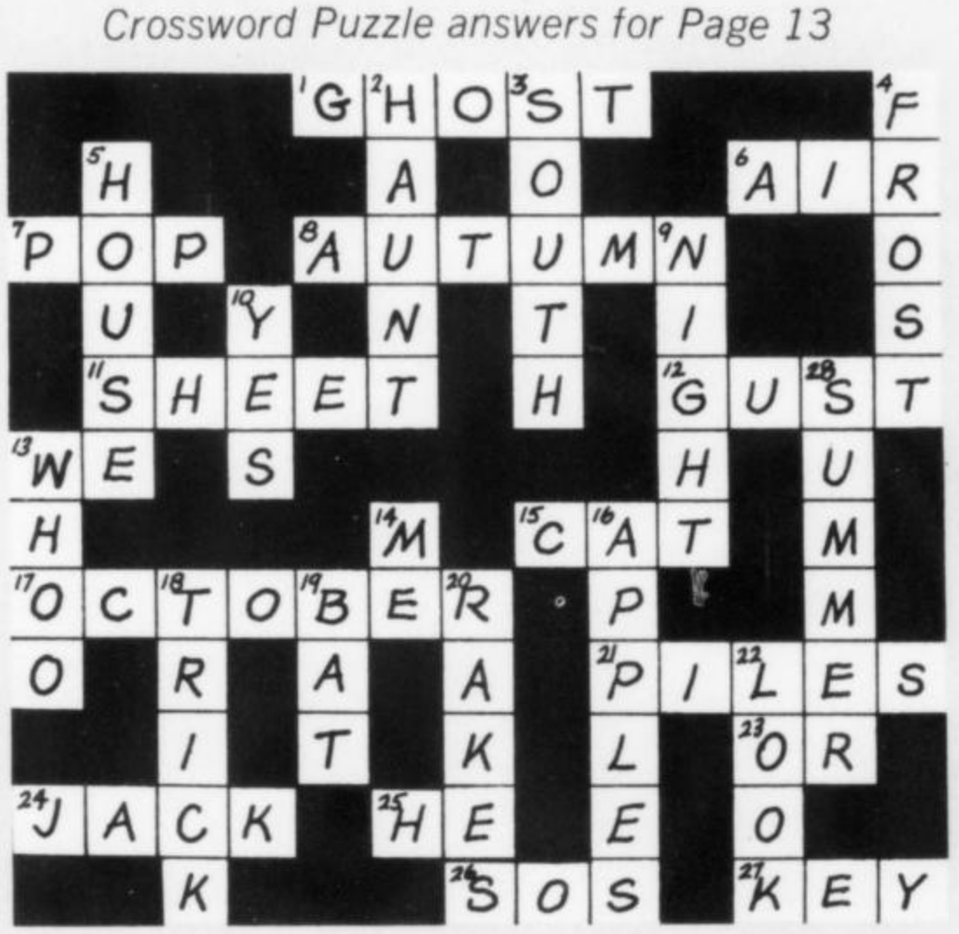
An elephant is "grown-up" when it is about 20 years old. It begins to show signs of old age at about 40. Most elephants live about 60 years. Some tortoises live more than 100 years.

Please tell me what black bears eat. I couldn't find it in the May issue.

—Judy Kelly, Age 9, Pennsylvania

Bears are classified as flesh-eating animals, but they also eat other foods like fish, grubs and birds' eggs; also fruits, berries, nuts, acorns, plant leaves, roots . . . and honey.

Crossword Puzzle answers for Page 13


1G 2H O 3S T 4F
5H A O 6A I R
7P O P 8A U T U M 9N O
U 10Y N T I S
11S H E E T 12G U 13S T
13W E S H U
H 14M 15C 16A T M
17O C 18T O 19B E 20R P M
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I T K L 23O R
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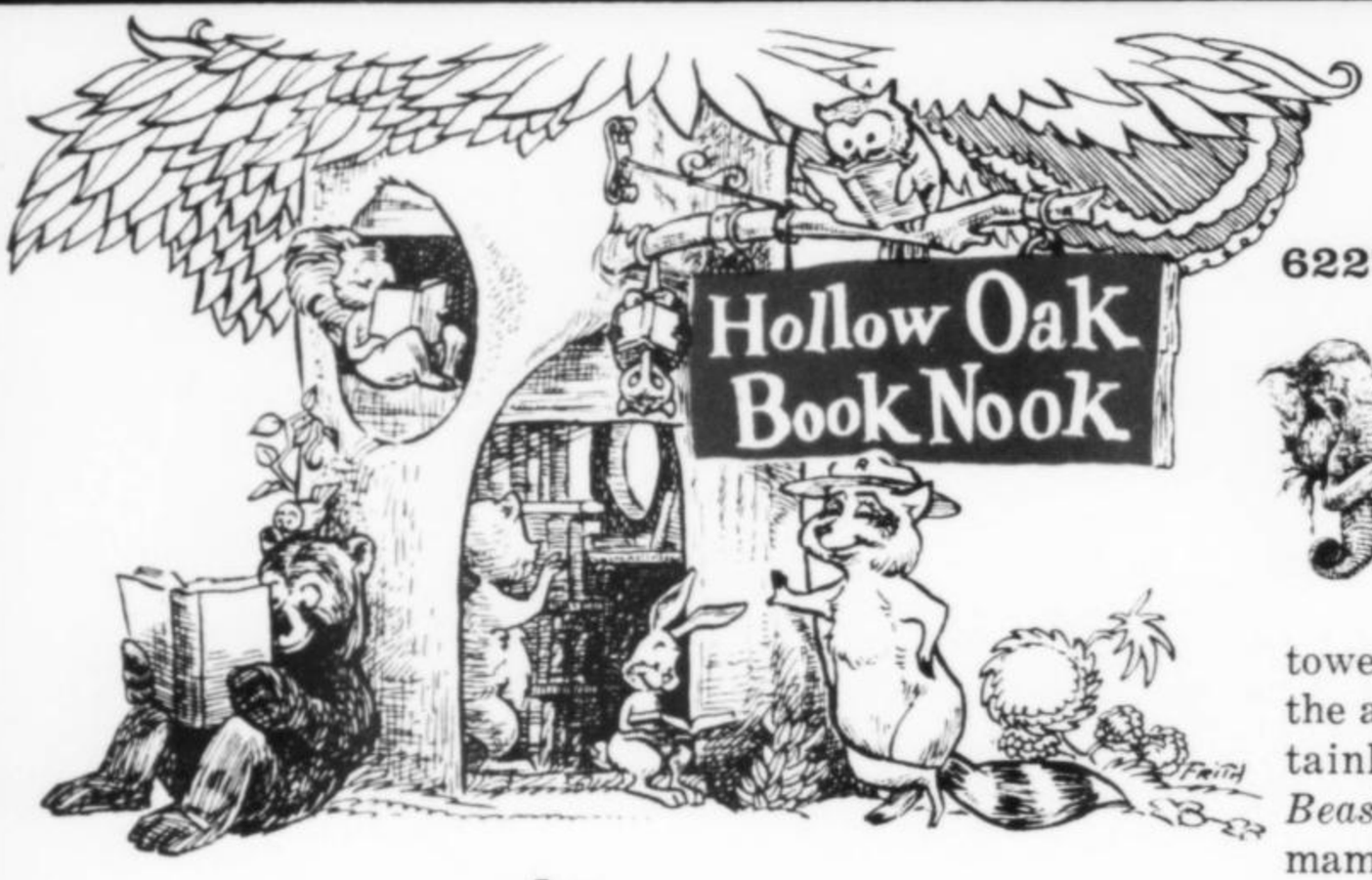
K 26S O S 27K E Y



by
Ranger Rick

Hi, Members!

Fall has arrived, school has started again, and the leaves have begun changing colors. This is one of our favorite times of year at the Hollow Oak Book Nook. Not only are the woods prettier than at any other time of the year, but we also receive lots of new books for our library. This month I'm going to tell you about four of the best of them. If you want to receive any of them yourself, just fill out the attached order form.

62266—The Pop-Up Animal Alphabet Book

Everyone has seen ABC books that tell you "A is for Alligator," "Z is for Zebra," and the like. But here's one that does a lot more. As you read *The Pop-Up Animal Alphabet Book*, you'll find out many startling things about animals that you probably never knew before, all told in delightful rhyme.

What's more, the book is filled with amazing 3-D pop-up illustrations that move right before your eyes. You'll actually see a hippo yawn, a hare turn white in winter and brown in summer, a kangaroo leaping, and much more.

Here's a book you won't believe till you see. Don't miss it!

62275—All About Strange Beasts of the Past

A million years ago and more, strange beasts roamed the earth, from tiny horses hardly bigger than today's cats to huge wooly mammoths and a strange creature called the "beast of Baluchistan" who towered 25 feet above the ground. If you enjoyed the article in this issue about fossils, you'll certainly like a book called *All About Strange Beasts of the Past*. Here is the story of the early mammals, and the scientific expeditions during which their fossil remains were found. The author, Dr. Roy Chapman Andrews, used to be the director of the American Museum of Natural History, and he himself was there when a lot of the great fossil discoveries were made.

62284—All About the Flowering World

If you read our article on how seeds travel, you were probably as amazed as I was to learn about some of the remarkable ways that flowers are able to reproduce themselves. In a book called *All About the Flowering World*, Ferdinand C. Lane tells us many more interesting facts about flowers. There's one, for example, that can curl its shiny leaf around a struggling insect and devour it completely! And another that's large enough to hold 6 quarts of water in the cup formed by its 5 petals! Or a plant that can tumble along a country lane to scatter its seeds abroad! You'll love Russell Francis Peterson's illustrations, too.

62293—The Look-It-Up Book of Mammals

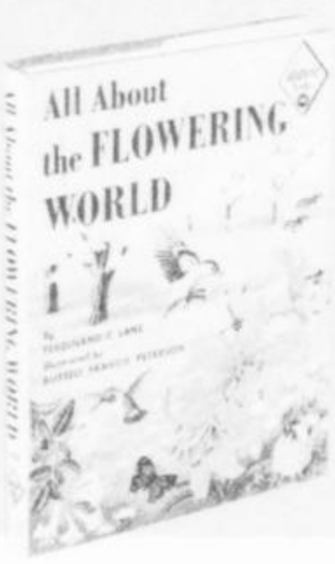
Wouldn't it be great if you could have your own animal encyclopedia? Well, *The Look-It-Up Book of Mammals* is exactly that. This new book contains fascinating information on just about every kind of mammal you can think of from Aardvarks to Zebras. For each animal there's all kinds of information and a beautiful painting by famed wildlife artist Guy Coheleach. Whenever you have a question about a mammal just "look it up."

RANGER RICK

Hollow Oak Book Nook Selections for October

62266—**THE POP-UP ANIMAL ALPHABET BOOK**
designed by
Akihito Shirakawa.
A 3-Dimensional "Pop-Up Book" for ages 4 and up.
(Pub. Ed. $1.95) **$1.60**

62275—**ALL ABOUT STRANGE BEASTS OF THE PAST**
by Dr. Roy Chapman Andrews
with illustrations.
An "Allabout Book" for ages 8 and up.
(Pub. Ed. $2.50) **$1.95**



62284—**ALL ABOUT THE FLOWERING WORLD**
by Ferdinand C. Lane.
Illustrated with drawings by Russell Francis Peterson.
An "Allabout Book" for ages 8 and up.
(Pub. Ed. $2.50) **$1.95**

62293—**THE LOOK-IT-UP BOOK OF MAMMALS**
by Patricia Lauber.
Illustrated by Guy Coheleach.
A "Look-It-Up Book" for ages 8 and up.
(Pub. Ed. $3.95) **$3.15**

IMPORTANT! The publisher's original price is enclosed within parentheses and your member's price is in bold face numerals. Example: (Pub. Ed. $5.95) **$4.75**

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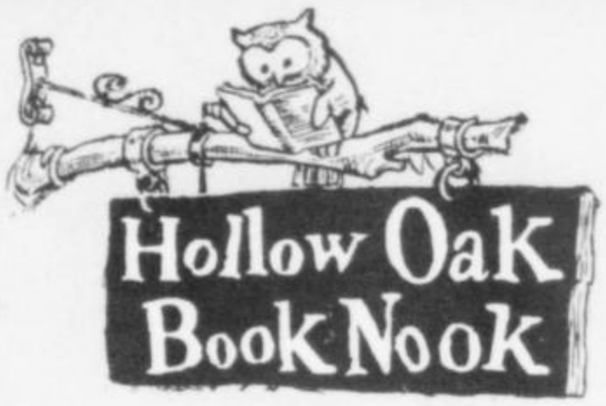

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2. IN THE "BOOK NUMBERS" COLUMN: Before the title of each book, there is a number. This number is what we need to tell us what book you want. Copy it carefully and print it clearly. Otherwise, you may get a different book.
3. IN THE "MEMBER'S PRICE" COLUMN: Take the lowest price shown for that book. Multiply it by the number of books of that title you want. Enter that figure in the member's price column.
4. Add up the prices and ask your mother or father for a check or money order.
5. Fill in clearly your name and address.
6. Mail order form with payment to:

HOLLOW OAK BOOK NOOK
c/o RANGER RICK'S NATURE CLUB
1412 Sixteenth Street, N.W.
Washington, D.C. 20036

HALLOWEEN MASKS

At Halloween it's time to dress
In scary clothes and masks;
But Nature gave some creatures here
A mask that lasts and lasts!

Please turn the page

1.

1. Chameleon 2. Mandrill baboon
3. Horseshoe bat 4. Wolf spider
5. Moray eel 6. Sand crab

Photo credits: 1. H. Uible;
2 & 5. Russ Kinne; 3 & 6. Jane Burton;
4. Jim Anderson. All photos except 4
from Photo Researchers, Inc.

2.

3.

4.

5.

6.

WOMBAT

by Fred Johnson

I would not care to engage the wombat
In any sort of mortal combat!

This funny little poem was written by a man named Ogden Nash. I don't think Mr. Nash ever met a wombat. He makes it sound as though wombats are great, fierce creatures with sharp claws and terrible fangs. This is not so. The wombat does have claws, but they are more blunt than sharp. He has teeth, and can give you a good bite if he needs to, but they are not fangs. And as for being fierce—well, a wombat is just about the gentlest, most bashful creature you could meet.

The wombat lives in Australia. He is quite unusual and different. He looks like three fat footballs squashed together end to end, with short heavy legs and thick brown or gray hair. His front feet have five strong claws which he uses for digging the deep holes or burrows in which he likes to live. Sometimes if he is lucky he doesn't have to dig. He may find a snug den under the roots of a fallen tree or a big rock.

His teeth are not very strong because he lives on tender vegetable plants, and, if he can get at it, most of a farmer's garden. His teeth have one unusual thing about them—they continue to grow all through his life. Even if they wear down as he chomps on twigs, it really doesn't matter—they just grow some more.

Wombats are nocturnal. This means they prefer to go out for breakfast at nighttime and then snooze all day. Besides, in the daylight they can be seen too easily by larger animals or hunters who would like nothing better than a meal of a fat wombat. That might make the wombat have to run to escape—and they hate to run.

In fact, wombats seem to be just plain lazy. They seldom hurry. They amble along and walk around things rather than climb over them. They often cross small streams by walking along the bottom under water rather than scrambling over rocks or logs or swimming across.

Wombats seem to be quite content in a zoo, as long as they have plenty of vegetables and something to hide in or under. They might bite, but only if provoked. People who come to the zoo to see them are often disappointed because the wombat is usually sound asleep under a pile of hay or in a dark box.

Perhaps Mr. Nash would not mind if we changed his poem to read:

Never fear to meet the wombat,
He doesn't care for any combat.

The End

Drawing by Donna Miller

GUEST FROM ANOTHER LAND

Photo by John R. Brownlie, Photo Researchers, Inc.

LET'S TALK IT OVER

October is a very special month for many reasons. The trees are so colorful they become a beautiful sight for all of us to enjoy. Jack Frost begins to tease us with a few cold days spaced throughout the month. Also, this is when the fallen dry leaves crunch when we step on them.

Bright orange pumpkins appear in the fields during October. This means that Halloween will soon be here, and that in a short time the kitchen will be filled with the delightful smell of pumpkin pie. Halloween is the time for make-believe, when we wear masks and costumes and pretend to be someone different. This is always fun.

Each season brings new interests. Autumn is one season which seems to be filled with magic. The story *Autumn Is A Painter* on Page 6 describes some of this magic.

Another story in this magazine, that is filled with delightful and interesting facts, is called *How Seeds Travel.* It tells about the seeds that slide and roll, the ones that have waterproof skins and float and those called hitchhiking seeds. The next time you see certain kinds of plants in the woods, along the roadside, or in the fields, see if you can recall how the seeds were carried there so that the plants would begin to grow.

What is a fossil? It is important for us to learn about fossils because they tell us so much about the past. The scientists who study fossils are called paleontologists, a big title for a most interesting kind of work. Through their study of fossils they have learned many things about animals and plants that lived thousands and thousands of years ago.

Your teacher may know a paleontologist who lives in your community and you can plan together for a visit to discuss fossils with him. *Fossils Tell Earth's Oldest Story* on Page 15 will be very helpful in learning about fossils and also in preparing for such a visit. After you read this story you may want to start your own collection of fossils. This could prove interesting and fun for you and the other members of your family.

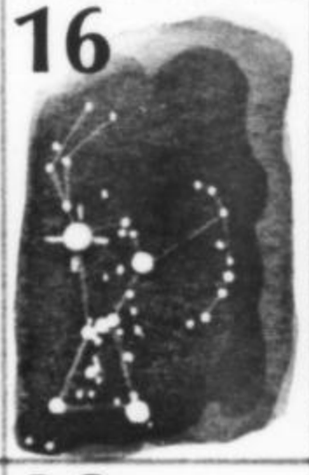
Autumn is a very good time to start a new project at home or in school. Your parents and your teacher will be happy to help you with this. Invite them and see.

Have a happy autumn.

Miss Frances

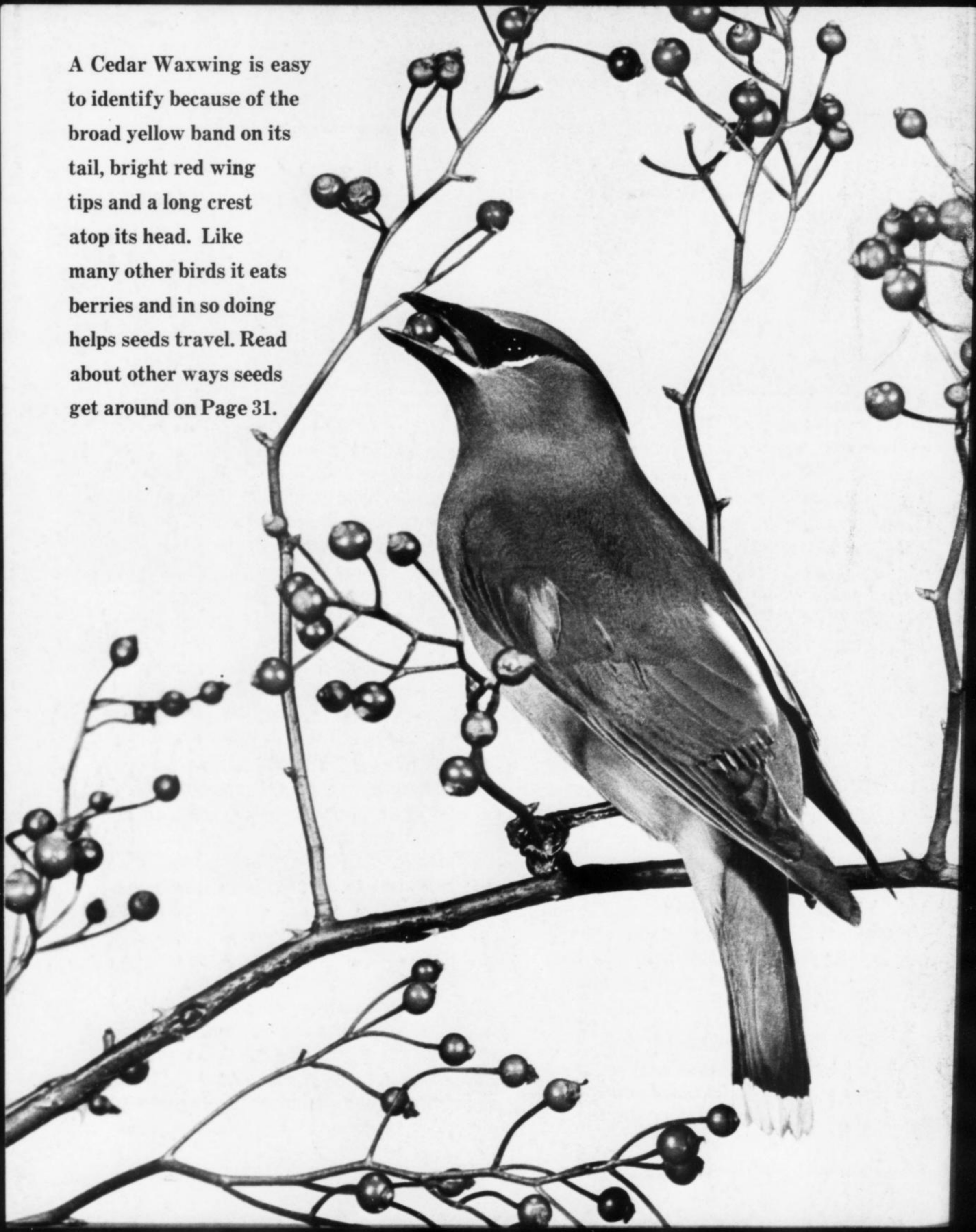
Back cover photo of cedar waxwing by Karl Moslowski, Photo Researchers, Inc.

RANGER RICK'S NATURE CALENDAR October 1967

SUN	MON	TUES	WED	THURS	FRI	SAT
1	2	3	4	5	6	7
			When winter comes, many songbirds fly south to warmer climates. Some species of duck join them. Others stay in the same area all year round and do not migrate. Have you seen any of these ducks which do not migrate?			
8	9	10	11	12	13	14
		Bats are mammals that can fly. During the daytime, they usually rest hanging upside down. Most bats you can see at dusk, as they fly about in search of insects to eat.				
15	16 	17	18	19	20	21
				Constellations (KAHN-stuh-LAY-shuns) are groups of stars. Some can be seen only during the winter because of the earth's motion around the sun. Can you find them?		
22	23	24	25	26	27	28
Some plants bear fruit into the late fall and early winter. If you find any of these plants, let them grow. They are important food for birds and other wildlife.						
29	30	31				
	Plan a feeder for the winter birds. Make a protected platform for your yard, or buy one ready-made.					

1. Common Goldeneye
2. Mallard
3. Pintail
8. Bufflehead
9. Common Merganser
13. Mexican Freetail Bat
14. Little Brown Bat
15. Evening Bat
16. Orion
17. Auriga
18. Taurus
25. Oak
26. Foxtail Grass
27. Multiflora Rose
28. Pine
29. Sumac

Created by Jean Aull

Drawings by Margaret Estey

A Cedar Waxwing is easy to identify because of the broad yellow band on its tail, bright red wing tips and a long crest atop its head. Like many other birds it eats berries and in so doing helps seeds travel. Read about other ways seeds get around on Page 31.